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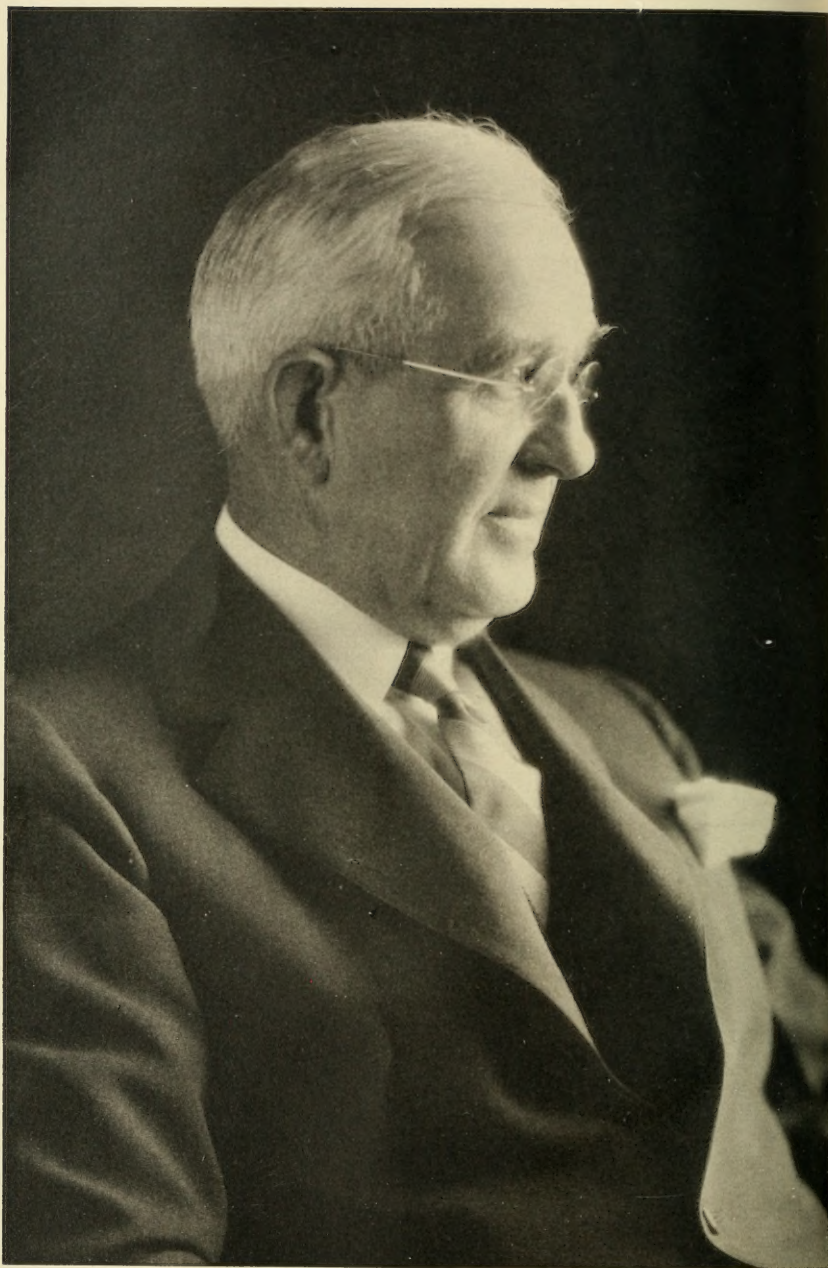






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STEPHEN CHAPMAN SIMMS  
1863-1937

Director and Trustee of the Museum from July 16, 1928, until his death on January 28, 1937.  
He first joined the Staff in 1894 as an Assistant Curator; in 1912 he became the first Curator  
of the N. W. Harris Public School Extension



# ANNUAL REPORT OF THE DIRECTOR

TO THE

## BOARD OF TRUSTEES

FOR THE YEAR 1937



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JUL 20 1938  
UNIVERSITY OF ILLINOIS

REPORT SERIES  
FIELD MUSEUM OF NATURAL HISTORY  
VOLUME XI, NUMBER 2  
JANUARY, 1938

PUBLICATION 413

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BY FIELD MUSEUM PRESS



## BEQUESTS

Bequests to Field Museum of Natural History may be made in securities, money, books or collections. They may, if desired, take the form of a memorial to a person or cause, to be named by the giver. For those desirous of making bequests to the Museum, the following form is suggested:

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*Endowments may be made to the Museum with the provision that an annuity be paid to the patron during his or her lifetime. These annuities are guaranteed against fluctuation in amount and may reduce federal income taxes.*





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## STEPHEN CHAPMAN SIMMS

March 22, 1863—January 28, 1937

Elected Director July 16, 1928

The Trustees of Field Museum of Natural History desire to express and record their deep sorrow at the grievous loss which has come to them and to the institution in the death, on January 28, 1937, of their fellow Trustee, Secretary of the Board, and Director of the Museum, Stephen Chapman Simms.

Few men have had such qualifications, based on native ability combined ideally with years of varied experience, for the position of director of a great museum. His was a splendid career, and one which may well serve as a model and inspiration to all museum workers, in this institution and elsewhere. His broad outlook, his unflagging devotion to the Museum not in the mere sense of duty, but as something he loved and to which he consecrated the entire energy of his life, his remarkable understanding of the ways in which the Museum could be made most useful and valuable to the public, and his kindness and sympathy with his associates on the Staff, will leave a lasting impress on the institution, and in the memories of all who knew him.

Mr. Simms had been a member of the Museum Staff since 1894, or almost from the time of the institution's founding. He was first assigned to the position of Assistant Curator of Industrial Arts, and later became Assistant Curator of Ethnology. He conducted a number of successful expeditions for the Department of Anthropology, notably among the American Indians of the west, and in the Philippine Islands. The collections he made remain as permanent and valuable features of the Museum's exhibits and study collections.

In 1912, when the Department of the N. W. Harris Public School Extension was established, Mr. Simms was appointed its Curator. Under his direction the work of this Department rapidly developed into one of the Museum's most important educational activities. He originated and organized the system whereby the institution is now in daily contact with Chicago's 500,000 school children by means of traveling exhibits circulated among their schools; and he supervised the creation of more than 1,200 such exhibits. The value of this work, and the success with which it was administered, has been attested year after year in the praises

which have come to the Museum from thousands of school officials, teachers, and the children themselves. Moreover, this work, embracing all of the sciences with which the Museum is concerned, gave Mr. Simms an experience which was to prove invaluable when, in 1928, the Trustees elected him as Director.

Mr. Simms' administration as Director was marked by two distinct and important periods of the Museum's history. The first embraced years which, by reason of the unprecedented number of far-flung major expeditions, and the tremendous progress made in expanding exhibits and all Museum activities, must always be remembered as among the years of the institution's greatest development. The second period consisted of several years which were among the most trying and difficult in the Museum's history, due to the long protracted world financial depression which had its inevitable effects upon the Museum's revenues and thus upon its continued progress. In both periods Mr. Simms administered wisely and well: in the first, guiding the Museum to the heights of its success as a scientific and educational institution; in the second, carrying on in the face of previously unparalleled difficulties, and managing to maintain the maximum service to the public possible under the circumstances, with a minimum of disruption to the Museum's activities and a minimum of suffering among its personnel.

We might write many thousands of words in eulogy, yet all that should be said could not be told—Stephen Chapman Simms' accomplishments live after him, a better memorial than any that can be written.

Therefore, be it resolved, that this testimonial of our esteem and affection for our departed Director be placed in the permanent records of the Board of Trustees of Field Museum of Natural History, to perpetuate his memory;

And be it further resolved, that our deepest sympathy be conveyed to his widow and the bereaved family, and that a copy of this resolution be sent to them.

CLIFFORD C. GREGG, Secretary  
May 17, 1937

STANLEY FIELD, President

---

## FREDERICK HOLBROOK RAWSON

May 30, 1872—February 5, 1937

Elected a Trustee June 20, 1927. Resigned October 21, 1935

With deep regret the Trustees of Field Museum of Natural History have learned of the death on February 5, 1937, of Frederick Holbrook Rawson, former member of the Board, and a Benefactor of the Museum. Mr. Rawson had been one of the most active and able men of the group charged with guiding the progress of this institution, and his wise counsel and respected advice have been sorely missed by his fellow Trustees ever since ill health forced him to retire from the Board in 1935.

Because of his high standing as one of Chicago's leading bankers, Mr. Rawson was placed on the Finance Committee, shortly after his election to the Board in 1927. His services on that Committee were of incalculable value to the Museum, especially during the recent years of depression when the institution's very existence was more than ever before dependent upon the sagacity with which its financial affairs were managed in the face of the extreme difficulties of the times.

The benefactions which the Museum owes to Mr. Rawson began even before he became connected with the Board of Trustees. On several occasions he contributed large amounts of money to the institution for the carrying out of projects important to its growth and progress. In 1926 he organized, and presented funds for, the First Rawson-MacMillan Subarctic Expedition of Field Museum, and in the following year he made possible the larger Second Rawson-MacMillan Expedition, the members of which were enabled through his generosity to spend fully fifteen months in Labrador and Baffinland, making collections and conducting researches for the Museum. Both of these expeditions, under the leadership of Mr. Rawson's friend, the eminent Arctic explorer Lieutenant-Commander Donald B. MacMillan, obtained valuable results for the Museum's Departments of Anthropology, Geology, and Zoology.

In 1929 Mr. Rawson sponsored a third expedition, the Frederick H. Rawson-Field Museum Ethnological Expedition to West Africa, which explored parts of that continent in which little previous work had been done by anthropologists, and secured extensive collections of value for the Museum's exhibits and for use in research work.



A few years later Mr. Rawson contributed many more thousands of dollars toward the cost of groups restoring types of prehistoric man, thus taking his place among the foremost of those who enabled this Museum to create its Hall of the Stone Age of the Old World, which ranks as an achievement without parallel among the museums of the world.

Field Museum was not alone as a beneficiary of Mr. Rawson's philanthropy. He was a wholehearted civic leader who was ever ready to aid to the best of his ability any worthy cause. Libraries, hospitals, homes for the unfortunate, and universities all benefited by his generous gifts, and his devotion of his time and efforts to the promotion of their interests. In his business activities, too, he was well known as a great leader—one who possessed not only the qualities which brought him success, but also a full measure of warmth and human kindness.

Therefore, be it resolved, that this testimonial be placed in the permanent records of the Board of Trustees of Field Museum, to perpetuate his memory, and the high esteem in which we held him;

And be it further resolved, that our deepest sympathy be conveyed to his widow and his bereaved family, and that a copy of this resolution be sent to them.

CLIFFORD C. GREGG, Secretary  
May 17, 1937

STANLEY FIELD, President



## LESLIE WHEELER

May 17, 1892—February 27, 1937

Elected a Trustee June 18, 1934

The untimely death of Leslie Wheeler, on February 27, 1937, is a severe loss to Field Museum of Natural History, which will be felt equally by his colleagues on the Board of Trustees, and his associates on the Scientific Staff. Mr. Wheeler had devoted himself wholeheartedly to the interests of the Museum, both as a Trustee and as a Research Associate in the field of ornithology, which had for years claimed his enthusiastic attention. He was, in addition, a Contributor to the Museum, and as a result of his generosity the institution's bird collections have been augmented by more than one thousand specimens of hawks, owls, and other birds, many of them rare and valuable, obtained from almost every part of the world.

Mr. Wheeler's active interest in and association with the Museum began in 1933 when he undertook the difficult and important task of building up and adding to the collection of birds of prey. He was soon devoting a great deal of time to this work, and his efforts were attended with splendid results. His election to the Board, and honorary appointment as a member of the Staff, followed shortly as a recognition of the value of these activities. Before long, Mr. Wheeler had organized a system of contacts with agents and collectors in many countries, including some of the most remote and inaccessible regions, and a constant stream of much-needed specimens flowed into the Museum from these sources. The benefits of the relationships he established for the Museum will continue even now after his passing from our midst.

As Research Associate, Mr. Wheeler spent many hours at the Museum almost every day, studying and working on the birds of prey which he presented to the institution. Shortly before his last illness, he brought to practical completion for publication his first formal research, a taxonomic revision of a group of South American wood-owls, together with the scientific description of a new species from Chiloe Island off the coast of Chile. His researches were directed both upon the biological significance and the economic aspects of the many species he studied. The knowledge he gained in his field enabled him to make an important contribution to ornithological

literature, and to answer many requests for information reaching the Museum from others interested in this subject.

Mr. Wheeler's position in the Museum was unique. As a member of the Scientific Staff he obtained a direct insight into the workings of the institution as a whole, and the plans and problems involved. Thus, as a Trustee, he was able to convey to his fellows on the Board a clearer and more comprehensive view of the needs of the Museum. His scholarship and achievements brought him the highest regard of both the Trustees and the Staff, and resulted in his election as a Fellow of the American Geographical Society, a high honor. But even greater was the affection he won by the charm and gentleness of his character, and his spirit of good comradeship.

Therefore, be it resolved, that this expression of our admiration and esteem for Mr. Wheeler, and our grief over the loss of his counsel and companionship, be spread upon the permanent records of the Board;

And be it further resolved, that our deep sympathy be conveyed to his bereaved family, and that a copy of this resolution be sent to his widow.

CLIFFORD C. GREGG, Secretary  
May 17, 1937

STANLEY FIELD, President

RECEIVED

# ANNUAL REPORT OF THE DIRECTOR

1937

To the Trustees of Field Museum of Natural History:

I have the honor to present a report of the operations of the Museum for the year ending December 31, 1937.

The uncertainty of financial support continues to be the chief problem of the Museum. There is great need for a larger Scientific Staff, more nearly proportioned to the scope of the institution. Additional Staff members could give to the public far greater use of the splendid collections now in the Museum, through expansion and improvement of exhibits, further extension of educational activities, development of research facilities, increased production of publications, and various other means.

There is great need of a pension fund adequate to meet the requirements of a Staff most of whom have spent many years in the service of the institution. A splendid beginning on such a fund was made through the original contributions of President Stanley Field many years ago. Various other urgent needs of the institution since that time have taken all available funds, so that the pension fund is now woefully inadequate.

The need of increased endowments becomes more marked year after year. Were it not for the generous support of Mr. Marshall Field, Mr. Stanley Field, Mrs. James Nelson Raymond, Mrs. Diego Suarez, and a few others, the activities of the Museum would necessarily be curtailed at once. Rigid economies are required in any case under present-day conditions.

The year was a successful one from the standpoint of service rendered by the Museum, as there was an increase in attendance, and notable accomplishments were made in various activities for the public and for the advancement of science.

However, the period was saddened by the deaths of several of the institution's most valued supporters and friends. The first of these losses was by the death on January 28 of Mr. Stephen C. Simms, Director of the Museum since 1928, and one of the oldest members of the Staff in length of service.

Early the following month Mr. Frederick H. Rawson, who had been a member of the Board of Trustees from 1927 until his ill health necessitated his resignation in 1935, died at his home



in the west. Mr. Rawson had been the sponsor of two expeditions to the Subarctic and one to Africa, and he had devoted much time, effort and money to the welfare of the Museum for many years. In addition to being a Trustee he was also a Benefactor of the Museum.

Within the same month that his fellow Trustee, Mr. Rawson, died, Mr. Leslie Wheeler passed away. Mr. Wheeler was interested in the Museum not only as a Trustee but as an active co-worker in the Division of Ornithology, and his passing removed from the ranks of the younger scientists an able and promising man.

Resolutions of the Board of Trustees on the deaths of Messrs. Simms, Rawson and Wheeler will be found in pages of this book preceding the Report proper.

Noted also with extreme regret is the passing of Mrs. Charles H. Schweppe, well-known philanthropist, whose interest in Field Museum prompted her gift to the institution of the triad of figures called the "Unity of Mankind," which occupies the center of Chauncey Keep Memorial Hall.

Late in the year Miss Kate S. Buckingham died after a long and useful life largely dedicated to philanthropic work. Miss Buckingham was a Benefactor of Field Museum, having contributed \$100,000 as an endowment toward the costs of general operation, and many other gifts.

The death on May 20 of Dr. Stephen Langdon, Professor of Assyriology at Oxford University, England, was noted with regret at Field Museum. Dr. Langdon had been Director of the Field Museum-Oxford University Joint Expedition to Mesopotamia from 1923 to 1932, and during two seasons of work he personally supervised the excavations. He was a noted archaeologist whose passing was felt as a severe blow by scholars all over the world.

While the loss of these many friends of the Museum is a sad blow, it is felt that they can be best honored by making every effort to continue at the institution the high ideals for which they lived.

For the first time since 1933 the Museum showed a substantial increase in attendance. The total figure of 1,290,023 visitors was a gain of a little more than 100,000 over the year before. More gratifying was the fact that the proportion of paid to total admissions increased from less than 6 per cent during 1936 to 7.3 per cent during 1937.

On August 4 the Museum received its twenty millionth visitor since the present building was first opened on May 2, 1921. The

fortunate visitor, admitted at the north entrance, was John Ladd, a youth of fourteen years, whose home is in New York City. In commemoration of this event a certificate of life membership in the Museum was presented to him. He was then escorted to the office of President Stanley Field, who presented him with a miniature of the bronze sculpture by Miss Malvina Hoffman in Chauncey Keep Memorial Hall typifying the Vedda of Ceylon.

The arrival of the twenty millionth visitor emphasized the fact that the average attendance in this building has been one and one-quarter million persons per year, contrasted with 228,000 annually at the former location in Jackson Park occupied by the Museum from 1894 to 1920.

To indicate the progress the institution has made since its founding, a special exhibit was arranged in Stanley Field Hall during August and part of September. This exhibit, by means of graphs, charts, photographs, and specimens, made apparent the principal developments in many fields which have occurred in the forty-four years of the Museum's existence.

Attendance at the Museum itself does not indicate fully the scope of the institution's service to the general public, as will be realized by perusal of other sections of this Report, particularly the pages devoted to the work of the James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures, and the Department of the N. W. Harris Public School Extension. In those pages will be found details of how the Harris Extension, for example (which in November completed its twenty-fifth year of service), benefited some 500,000 children by the circulation of nearly a thousand traveling exhibits among more than 400 Chicago schools. Likewise outlined there are the manifold activities of the Raymond Foundation, such as the presentation of spring and autumn series of educational motion pictures, the conducting of parties of children on guide-lecture tours of the exhibits, and the sending of lecturers into hundreds of school classrooms and assembly halls to address large groups of children. Nearly a quarter million children were reached by the Raymond Foundation with Museum instruction supplementing their regular studies.

A good example of the special educational service which the Museum constantly seeks to render, especially to children, is worth citing here. During the International Live Stock Exposition held at the Union Stock Yards in Chicago in December, the Museum co-operated with authorities of the exposition and the National

Four-H Club Congress. As a result, enthusiastic groups totaling 610 girls and 742 boys from American farms, delegates to the Four-H Congress, were brought on visits to Field Museum. They were conducted on tours of the exhibits by members of the Staff of the James Nelson and Anna Louise Raymond Foundation. Following their visits, there was received a flood of letters from these children and youths expressing appreciation for the entertainment and instruction provided by the Museum and its Staff. These letters came from many widely separated states, ranging from Maryland on the Atlantic Coast to Oregon on the Pacific, and from Montana near the Canadian border to Texas near the Mexican boundary.

In the field of adult education, the Museum presented its usual spring and autumn courses of illustrated lectures in the James Simpson Theatre, and its daily guide-lecture tours of exhibits. In addition, a series of special Sunday guide-lecture tours constituted an innovation of the year. Statistics and other details regarding these activities will be found elsewhere in this Report.

The influence of the Museum was spread further by the Library, the effectiveness of which was augmented by acquisitions of new books and periodicals through gifts, exchanges and purchases. The Library's resources in scientific literature for reference purposes are becoming better known, and increasing use of its collection, now numbering more than 110,000 volumes, was made by the general public in 1937. To the Staff of the Museum, and to other scientists and students of Chicago and vicinity, the Library, of course, is indispensable.

Valuable reference material, for teachers, students, and others engaged in various forms of research, was provided also by the study collections maintained for this purpose in each of the scientific Departments of the Museum. As in other years, these attracted many users.

As has been pointed out in past Annual Reports, there is also a vast public the extent of which it is impossible to gauge in statistics, but which must number hundreds of thousands, or even millions of persons, who are reached by published accounts of Museum activities. These include not only those who have access to the publications and leaflets issued and distributed from Field Museum Press, and the monthly bulletin *Field Museum News*, but also the untold numbers who read articles about the institution in daily newspapers and periodicals the world over, and who hear radio programs in which the Museum is publicized.



Throughout the year the story of the accomplishments of Field Museum was kept constantly before the public through the generous co-operation of the Chicago newspapers and the radio stations of the city. The volume of the published accounts of the Museum's activities was greater than had been attained for many years.

During 1937 Field Museum, for the first time, used the radio in a carefully planned program to carry the message of a natural history museum to the people of the United States. With the co-operation of the University Broadcasting Council, a series of thirteen programs was presented on the coast-to-coast network of the Mutual Broadcasting System, with station WGN as the outlet in Chicago. These broadcasts consisted of dramatizations of expeditions, followed by interviews with some of the men prominently associated with each enterprise. This entire radio series was made possible by a gift from President Stanley Field, who also took an active part in formulating the plans for the programs.

Widespread favorable response was attracted by these broadcasts, presented under the title "From the Ends of the Earth." Many letters and postcards praising them were received from listeners in all parts of the country. The radio critic of *Variety*, outstanding theatrical weekly, in a review of some length characterized the programs as "a beautifully produced dramatic production," with "action and human interest to rank it with the top fiction-drama programs on the air" although at the same time evidencing "absolute authenticity, not only in subject matter of script, but even in details such as savages' drum rhythm."

Many visitors were attracted to the Museum by these radio programs, most enthusiastic among whom was Robert Kroening, a twelve-year-old boy of Kirkwood, Missouri, who traveled the several hundred miles from his home to Chicago especially to join one of the special lecture-tours offered at the Museum in connection with each broadcast.

In recognition of their various gifts during their lifetimes, and their subsequent bequests to the Museum, the late Mr. and Mrs. Martin A. Ryerson were posthumously elected as Benefactors of the Museum (a designation applied to all whose gifts total \$100,000 or more) at a meeting of the Board of Trustees held on October 18. The gifts of the Ryersons dated from the year 1895 and continued intermittently throughout their lives. Mr. Ryerson was a Trustee, and First Vice-President of the Museum, from 1894 to 1932.



Three names were added to the list of Contributors to the Museum (a membership classification designating those whose gifts in money or materials reach a value between \$1,000 and \$100,000). The new Contributors are Mr. Alfred A. Look, of Grand Junction, Colorado, Dr. Wilfred H. Osgood, Chief Curator of the Department of Zoology, and the late William N. Rumely, of Chicago and LaPorte, Indiana. Mr. Look is the donor of valuable additions to the paleontological collections, including the skeleton of an important fossil mammal new to science. Dr. Osgood personally financed and conducted an expedition to French Indo-China during several months of 1937, with resulting large and important additions to the Museum's zoological collections. From the Estate of Mr. Rumely the Museum received as a gift a meteorite specimen, exceedingly rare in type, and of high value.

Five new Life Members were elected during 1937. They are: Mr. Walter J. Cummings, Mrs. Walter P. Hemmens, and Mrs. C. Morse Ely, all of Chicago; Mrs. Leslie Wheeler, of Lake Forest, Illinois, and Mr. John Ladd, of New York City. The election of Mr. Ladd was honorary, as a result of his having been the twenty millionth visitor to enter the present Museum building.

A list of Members in all classes will be found beginning on page 276 of this Report. On December 31 the total number of memberships was 4,266 as compared with 4,238 on the same date in the preceding year. While the increase was thus only 28, actually more than that number of new Members were enrolled, but the net gain was reduced by a greater than normal number of losses by deaths and cancellations of older Members.

All Officers who had served the Museum in 1936 were re-elected for 1937 at the Annual Meeting of the Board of Trustees, held on January 19. Due to the death later that same month of Director Simms, President Stanley Field appointed Mr. Clifford C. Gregg (formerly Assistant to the Director) as Acting Director; and on May 17, at their regular meeting, the Trustees formally elected Mr. Gregg as Director and Secretary of the Museum. No action has been taken by the Trustees to fill the two vacancies on the Board caused by the deaths of Mr. Simms and Mr. Leslie Wheeler.

Continued actively throughout 1937 were installations of new exhibits, as well as reinstallations and improvements of many of those originally placed on display in previous years. Details of these will be found in a section of each of the departmental reports contained in this book; therefore brief reference will be made here to

only a few of the more important ones. In the Department of Zoology there were opened to the public an unusually large number of new habitat groups—three of birds and four of mammals. Two of these are in Carl E. Akeley Memorial Hall (Hall 22)—a group of the tiny African antelopes known as klipspringers, and another of the bizarre guereza monkeys of Ethiopia. A habitat group of the harbor seals of the Pacific was installed in the Hall of Marine Mammals (Hall N). To William V. Kelley Hall (Hall 17) there was added a group of the Asiatic takin, one of the most difficult of all animals to hunt. In the Hall of Birds (Hall 20) the habitat groups completed are: birds of the Kalahari Desert, composed of specimens collected by the Vernay-Lang Kalahari Expedition (1930) and presented to the Museum by Mr. Arthur S. Vernay, of New York and London; bird life of Mount Cameroon, and village weaver-birds of Africa. The latter two are both composed of specimens collected by the Straus West African Expedition of Field Museum (1934), sponsored by Mrs. Oscar Straus, of New York. In addition to the habitat groups, numerous additions were made to the screens and single mounts of mammals, birds, reptiles, and skeletons in the systematic collections displayed in various halls.

The most noteworthy addition to the exhibits in the Department of Anthropology consisted of three new cases of jades, containing seventy-five pieces, each a masterpiece of color and carving, installed in the Hall of Jades (Hall 30). These are part of the extensive collection of Chinese art objects bequeathed to the Museum by the late Mrs. George T. (Frances Ann Gaylord) Smith, of Chicago.

In Ernest R. Graham Hall (Hall 38), containing the paleontological collections of the Department of Geology, there was installed a skeleton of a South American ground sloth designated as *Hapalops*, a name derived from Greek and meaning "gentle face."

In the Department of Botany, various additions were made to the series of reproductions of plants in the Hall of Plant Life (Hall 29), to the economic botany halls, and to the wood collections. In this Department, however, the major efforts of the preparators were devoted to elaborate habitat groups which will not be completed until 1938.

After an extended lull in expeditionary work because of adverse economic conditions, several small expeditions were sent into the field during 1937. Of these, the continuation of the project begun in 1929 for the photographing of type specimens of plants in Europe by Mr. J. Francis Macbride, Associate Curator of the Herbarium,

was the only one of which the expenses were paid with Museum funds.

Dr. Wilfred H. Osgood, Chief Curator of Zoology, left in January for French Indo-China, where he spent several months collecting birds, mammals, and reptiles. This expedition netted approximately five hundred mammal skins, including a suitable selection for a habitat group of gibbons. Another splendid group will result from this expedition's collecting of specimens of the green peacock. Before returning to Field Museum, Dr. Osgood completed a trip around the world, stopping for several days at the British Museum in London en route. The entire cost of this expedition was contributed by Dr. Osgood from his own funds.

Dr. Julian A. Steyermark, Assistant Curator of the Herbarium, spent the summer in collecting the flora of Missouri, on his own time and at his own expense.

Another staff member to contribute funds of his own toward a Museum expedition was Mr. Karl P. Schmidt, Curator of Reptiles, who journeyed to western Texas accompanied by Mr. D. Dwight Davis, Assistant Curator of Anatomy and Osteology, in search of herpetological specimens.

Through the generosity of President Stanley Field, many members of the Staff were enabled to proceed in search of specimens for which a definite need has been felt. Thus Curator Schmidt made another expedition, accompanied by Staff Taxidermist Leon L. Walters, to collect reptiles in Arizona and California. Dr. Paul S. Martin, Chief Curator of Anthropology, resumed his archaeological excavations in southwestern Colorado, discovering material which furnishes direct evidence of the migrations of Indian tribes some 1,500 years ago. Mr. Llewelyn Williams, Curator of Economic Botany, went to Mexico whence he brought a systematic collection of the woods of the Isthmus of Tehuantepec and other localities in the states of Oaxaca and Veracruz. Mr. Emmet R. Blake, Assistant Curator of Birds, left early in January for British Guiana, where he collected ornithological specimens until early in the summer. He then went to Brazil for further collecting and at the close of the year was on his way back to Chicago. Mr. Sharat K. Roy, Curator of Geology, obtained in Colorado several valuable specimens for the exhibits pertaining to structural geology. An expedition to Colorado, led by Mr. Bryan Patterson, Assistant Curator of Paleontology, collected specimens of fossil mammals. Mr. J. H. Quinn, Assistant in Paleontology, accompanied the expedition, and Mr. Elmer S.





EARLY SLAB HOUSE, SOUTHWESTERN COLORADO

Excavated in 1937 by the Field Museum Archaeological Expedition to the Southwest



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Riggs, Curator of Paleontology, joined the party for a few weeks. Mr. Alfred C. Weed, Curator of Fishes, accompanied by Staff Taxidermist L. L. Pray, collected fish specimens along the coast of Maine for a proposed undersea group. Staff Taxidermist C. J. Albrecht, through the co-operation of the United States Biological Survey, was enabled to visit the Pribilof Islands, where he collected specimens for a complete group of fur seals. Although, under government regulations, Mr. Albrecht was not permitted to kill a single seal nor to land firearms on the Pribilofs, officials made it possible for him to obtain the specimens needed from among the animals taken in regular sealing operations. The co-operation of the government in this undertaking is sincerely appreciated.

It is worthy of note that a great deal was accomplished on these expeditions with a minimum expenditure of money. This was possible because of foresight and skillful planning on the part of the expeditionary personnel, and their thorough understanding of methods and objectives.

Gifts of money, and of material for the scientific collections and the Library, are herewith gratefully acknowledged. Among those who contributed funds during the year may be mentioned the following:

Mrs. Diego Suarez, of New York, gave the sum of \$50,000, to be used toward payment of general operating expenses of the Museum.

President Stanley Field contributed sums totaling \$37,661.37, to be applied, in accordance with his directions, toward the costs of constructing built-in exhibition cases in the halls of birds (Halls 20 and 21), and for the purchase of other cases likewise for zoological exhibits; purchase of plate glass required for various cases; construction of a mezzanine on the fourth floor to augment zoological storage facilities, and purchase of storage equipment for this mezzanine; expenses of various expeditions; and the expense involved in the presentation of the thirteen radio broadcasts, "From the Ends of the Earth."

Early in the year Mr. Marshall Field contributed \$28,750 to be used to wipe out an anticipated operating deficit.

Mrs. James Nelson Raymond was the donor of \$6,000 toward the operating expenses of the James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures. This was a continuation of her splendid generosity which so often has been manifested in the years since 1925, when she established the Raymond Foundation by providing a large endowment fund.

Mr. H. Boardman Conover, Research Associate in the Division of Birds, presented \$400 toward the expenses of the zoological expedition to Brazil conducted during the year by Assistant Curator Emmet R. Blake.

From Mr. Henry J. Patten, of Lake Forest, Illinois, a gift of \$250 was received. Other sums of varying amounts were received as contributions from Mrs. Hermon Dunlap Smith, of Lake Forest; Mrs. Leslie Wheeler, of Lake Forest; Mr. Edward L. Dawes, of Chicago; Mr. Clarence B. Mitchell, of Chicago; Mr. Benjamin L. Bolling, of Mason City, Iowa; Mr. William J. Weldon, of Chicago; and Mr. H. F. Johnson, Jr., of Racine, Wisconsin.

A substantial, but as yet undetermined, sum will accrue to the Museum as a result of the bequests, previously mentioned, from the late Mr. and Mrs. Martin A. Ryerson. The estates are still in process of administration, and a definite figure regarding the amount of the bequests is therefore not yet available.

A fellowship grant of \$500 was received from the Carnegie Corporation, New York, to pay traveling expenses for Mr. Sharat K. Roy, Curator of Geology, on a trip to other American scientific institutions for purposes of research.

The death of Miss Kate S. Buckingham, who in 1925 had established an endowment of \$100,000, releases the Museum of its obligation to pay an annuity of \$5,500. In future the income of this fund will be used for general operating purposes.

By a payment of \$20,375.80 to the Northern Trust Company the Museum reduced to \$36,000 its indebtedness to that bank.

From the Chicago Park District the Museum received, as its share, authorized by the state legislature, of collections made during 1937 under the tax levies for 1936 and preceding years, sums aggregating \$92,122.69.

In the departmental sections of this Report, and in the complete List of Accessions beginning on page 254, will be found details of the many gifts of material for the collections received by the Museum during the year. A few outstanding ones have been selected for mention here, as follows:

A star sapphire, valued at \$1,550, was received from Mrs. William J. Chalmers, of Chicago.

An iron meteorite of the rare hexahedrite type, valued at \$1,500, was presented by the Estate of the late William N. Rumely, of Chicago, through Mr. Richard L. Rumely, son of the original owner.

The Polish-American Chamber of Commerce in Warsaw, with the Polish government co-operating, presented specimens of white storks, with a nest and other accessory material for the creation of a habitat group in the Hall of Birds (Hall 20). The Museum is indebted to Dr. Wacław Gawronski, Consul-General of Poland in Chicago, and Mr. Jerzy Bojanowski, an official of the Consulate, for making arrangements for the collection of the birds and accessories. Further, through the co-operation of the Polish-American Chamber of Commerce, the Polish Government, the Consulate-General, and a large number of individuals and scientific institutions both in this country and Poland, a collection of varied specimens for all Departments was received. This material was brought from Poland by Mr. Anthony Mazur, an employe of the Museum, who himself contributed toward the collection.

From Messrs. Spencer W. Stewart and Robert J. Sykes, of New York, the Museum received the skin of a whale shark taken at Acapulco, Mexico. This animal represents what is probably the largest living species of fish-like creatures, reaching a size equal to or greater than that of some of the smaller whales.

Mr. Leon Mandel, of Chicago, as a result of West Indian cruises on his yacht *Buccaneer*, presented the Museum with specimens of "wahoo fish" (*Acanthocybium petus*), flying fish, other marine inhabitants, valuable birds, and a rare lizard. Mr. Rudyerd Boulton, Curator of Birds, was a guest on one of these cruises, and participated in the collecting.

An important collection of leaves, flowers and fruits of palms gathered in the Amazon region was received as a gift from Mr. H. F. Johnson, Jr., of Racine, Wisconsin. Some of the leaves are as much as thirty-five feet long, and clusters of fruit weigh as much as one hundred pounds.

Mr. Michael Lerner, of New York, presented a mounted specimen of blue marlin, otherwise known as "sword fish," which will make a valued addition to the exhibits planned for the hall of fishes (Hall O). The specimen, caught by Mr. Lerner at Bimini, Bahama Islands, is of record size, and weighed 537 pounds.

As for a number of years past, the John G. Shedd Aquarium, the Lincoln Park Zoo, the Chicago Zoological Society, and the General Biological Supply House, of Chicago, all contributed numerous valuable zoological specimens to the Museum.

Among distinguished visitors entertained at Field Museum in 1937 were: Dr. Oswald Menghin, Professor of Prehistoric Archaeology



at the University of Vienna; Dr. H. R. von Koenigswald, paleontologist of Bandoeng, Java; Dr. V. Gordon Childe, Professor of Prehistoric Archaeology at the University of Edinburgh; Dr. Dorothy A. E. Garrod, research fellow of Newnham College, Cambridge, England; Dr. Paul B. Sears, head of the department of botany at the University of Oklahoma; Dr. Kiyoshi Kominani, Professor of Botany at the Imperial University of Tokyo; Dr. Georg Steindorff, Professor Emeritus of Egyptology, University of Leipzig; Dr. E. I. Musgrave, Director of the City Art Gallery and Museum, Wakefield, Yorkshire, England; Dr. M. B. Hodge, Keeper of Bankfield Museum, Halifax, England; Dr. Robert Broom, paleontologist of Victoria College, Pretoria, South Africa; Dr. T. S. Westall, ichthyologist of the University of London; Dr. Wolfram Eberhard, anthropologist of the Museum für Völkerkunde, Leipzig, Germany; Dr. Rudolf Florin, paleontologist of the Stockholm Museum in Sweden; Colonel Theodore Roosevelt, of New York; Mr. Gerald Lightfoot, Secretary of the Council for Scientific Industrial Research, Melbourne, Australia; Mr. William Henry Claflin, Jr., Treasurer of the Museum of Fine Arts in Boston, and Curator of Southeastern Archaeology at the Peabody Museum of Harvard University; Dr. Walter Robyns, Director of the Jardin Botanique de l'Etat in Brussels, Belgium; Dr. Frederick P. Keppel, President of the Carnegie Corporation, New York; M. Marcel Olivier, President of the Museum National d'Histoire Naturelle, Paris; Mr. Gilbert Archey, Director of the Auckland Institute and Museum in New Zealand; Mr. J. R. Kinghorn, zoologist of the Australian Museum in Sydney; Mr. E. D. Hester, Economic Adviser to the High Commissioner of the Philippine Islands; Dr. J. M. Menzies, head of the department of archaeology at Cheeloo University, Shantung Province, China; Mrs. Franklin Delano Roosevelt, wife of the President of the United States; Mr. J. O. Brew, specialist in archaeology of the American Southwest, on the staff of the Peabody Museum, Harvard University; Mr. Earl Morris, of the staff of the Carnegie Institution of Washington, D.C., and Dr. Harold S. Colton, of the Museum of Northern Arizona at Flagstaff.

In addition to the election of a new Director, reported elsewhere, a number of other Staff changes occurred during the year:

Mr. Richard A. Martin was appointed Curator of Near Eastern Archaeology, and Dr. Julian A. Steyermark was appointed Assistant Curator of the Herbarium. Mr. David Gustafson was employed as an editor and proofreader in the Division of Printing. Mr. John R.



CHIPPING STONE IMPLEMENTS

Exhibit illustrating a method employed by North American Indians for making tools  
(Hall B)

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Millar, who had been on the staff of the Department of Botany since 1918, was transferred to the Department of the N. W. Harris Public School Extension, where he was appointed Acting Curator. Mr. A. L. Stebbins was appointed Bookkeeper.

Changes were made in a number of the titles of Staff members, in order better to designate their duties, as follows: Mr. C. Martin Wilbur, from Curator of Sinology to Curator of Chinese Archaeology and Ethnology; Mr. Edmund N. Gueret and Mr. D. Dwight Davis from Curator and Assistant Curator respectively of Invertebrate Skeletons, to Curator and Assistant Curator respectively of Anatomy and Osteology; Mrs. Mary W. Baker, from Assistant Librarian to Associate Librarian, and Mr. A. A. Miller from Photogravurist to Collotyper. The title Public Relations Counsel was adopted for Mr. H. B. Harte of the Division of Public Relations.

Under the provisions of the Field Museum Employees' Pension Fund, insurance was paid in the amounts indicated to the following beneficiaries of employes and pensioners who died during 1937: \$6,000 to Mrs. Stephen C. Simms, widow of the late Director Simms; \$4,000 to the widow of Mr. Thomas J. Larkin, former Museum guard; and \$3,000 to four sons of Mr. Burchard Tiemann, a former employe of the Museum's Division of Printing. Mr. John Buettner, preparator-carpenter in the N. W. Harris Public School Extension, retired from active service and was placed on the pension roll.

Mr. Henry Field, Curator of Physical Anthropology, received the degree of doctor of science from Oxford University in June. He went to England and participated in the ceremonies connected with conferring of this honor. The degree is in recognition of Dr. Field's vast amount of research conducted at Field Museum, the work he performed on several expeditions for this institution, and the many comprehensive scientific reports he has written and had published by Field Museum Press.

Members of the Museum Staff engaged in various scientific research projects, outlined in the departmental sections of this Report, and attended a number of important meetings of learned societies during the year. Assistant Curator Julian A. Steyermark presented a botanical paper at the meeting of the American Association for the Advancement of Science held in December at Indianapolis, Indiana. Dr. Paul S. Martin, Chief Curator of Anthropology, attended the meeting of the Academy of Natural Sciences in Philadelphia in March, and presented a report on the Field Museum Archaeological Expedition to the Southwest at the meetings of the



American Anthropological Association held at Yale University in December. Dr. Martin also visited a number of eastern museums for purposes of study. Curator C. Martin Wilbur presented a paper on a phase of Chinese archaeology at the meeting of the American Oriental Society held at Cleveland, Ohio, March 31 to April 2; Curator Richard A. Martin attended the same meeting. Curator Rudyerd Boulton attended the convention of the American Ornithologists' Union held at Charleston, South Carolina, in November. Later Mr. Boulton began a visit of several weeks in the east to make special studies on the taxonomy and distribution of the birds of Angola (Portuguese West Africa), working principally at the American Museum of Natural History, New York, and the Carnegie Museum of Pittsburgh. Mr. Elmer S. Riggs, Curator of Paleontology, attended conferences of the Geological Society of America, and the Paleontological Society of America, at Washington, D.C., in December. Curator Colin C. Sanborn made an eastern trip during the course of which he attended the meeting of the American Society of Mammalogists held at Washington, D.C., in the spring, and engaged in studies at Boston and New York scientific institutions. Curator Sharat K. Roy spent several weeks in studies at eastern museums and universities to collect data for a forthcoming monograph on the geology and paleontology of southeastern Baffin Land, completing research in which he was engaged as a member of the Second Rawson-Macmillan Expedition to the Subarctic (1927-28). His traveling expenses were provided by a fellowship awarded by the Carnegie Corporation, New York.

Mr. Karl P. Schmidt, Curator of Reptiles, has been elected Herpetological Editor of *Copeia*, quarterly journal of the American Society of Ichthyologists and Herpetologists. Conducting this work in addition to his activities at the Museum, he is kept in close contact with fellow scientists all over the world.

Director Clifford C. Gregg, in the course of a western trip during the summer, camped with two of the Museum's expeditions in the field, and participated in their work. He first visited the site of operations of the Field Museum Paleontological Expedition to Colorado, and afterwards joined the members of the Field Museum Archaeological Expedition to the Southwest. Following reconnaissance at the latter site, he traveled with the expedition leader, Dr. Paul S. Martin, Chief Curator of Anthropology, to Mesa Verde National Park, the Laboratory of Anthropology at Santa Fe, New Mexico, Gila Pueblo at Globe, Arizona, and the excavations at

Jeddito, Arizona, of an expedition dispatched by the Peabody Museum of Harvard University under the leadership of Mr. J. O. Brew. These visits resulted in contacts of value in continuing the cordial co-operation existing between Field Museum and various institutions and individuals. Mr. Gregg later went alone for similar purposes to the Colorado Museum of Natural History in Denver, and the Museum of the University of Iowa at Iowa City. The visits of the Director to the Museum's expeditions served to establish closer contact between the executive offices and the men engaged in the institution's extra-mural activities, and it is hoped to continue this practice in future.

On December 2, at the time of the reopening of the Hall of Jades (Hall 30) with the addition of a collection bequeathed by the late Mrs. George T. (Frances Ann Gaylord) Smith, a special lecture on jades was given in the Museum's small lecture hall by Mr. C. Martin Wilbur, Curator of Chinese Archaeology and Ethnology. The lecture was illustrated with natural color stereopticon slides made and presented to Field Museum by Mr. Clarence B. Mitchell. The audience was composed of members of the American Friends of China, and others especially interested in Oriental art.

Members of the Museum and their guests, and invited groups from garden clubs and universities, attended a special showing of colored motion pictures, still photographs, and water color paintings of flowers of Panama, in the James Simpson Theatre on November 8. The pictures were the work of Mrs. H. H. Evans, of Balboa Heights, Canal Zone, who gave a lecture in connection with them.

Attention should be called to the splendid and effective work being done at Field Museum by a loyal and earnest group of volunteer workers. For many years Dr. E. E. Sherff and Mr. H. Boardman Conover have been identified with Field Museum as accomplished Research Associates in the fields of systematic botany and ornithology respectively. During the present year five other volunteers have joined the Staff in various capacities.

Mr. Clarence B. Mitchell, an Associate of the Royal Photographic Society, has for several months been carrying on experiments at the Museum in the field of natural color photography. Through this medium he has prepared a series of stereopticon slides featuring rare and beautiful jades selected from the Museum's collection. The fidelity with which color, texture, and finish have been portrayed has won wide commendation from art lovers throughout the city. Mr. Mitchell, as Research Associate in Photography on the Museum

Staff, is continuing his work in other difficult fields among the institution's collections.

Mr. Paul G. Dallwig, at a great expenditure of time and money, has prepared a series of lectures which he, as the "Layman Lecturer," offers free to the public on Sunday afternoons. These lectures are given in the halls of the Museum and present the story of certain sections of the exhibits in such a fascinating manner that the attendance has been more than could be accommodated, necessitating the requirement of advance registrations by participants. The limit, set at 100 persons for each lecture, has been reached repeatedly. At times reservations must be made as much as four weeks in advance.

Mrs. Hermon Dunlap (Ellen Thorne) Smith, of Lake Forest, Illinois, has been active for many months as Associate in the Division of Ornithology. Starting with limited knowledge of birds but a real desire for accomplishment in this field of study, she has rapidly progressed to a point where her services are highly regarded by her associates on the Staff of the Department of Zoology.

In the Department of Anthropology, Mrs. Edna Horn Mandel joined the Staff as an Associate because of her deep interest and wide knowledge in the field of Chinese art. At Field Museum she has given splendid service in describing, classifying, and cataloguing a diversified collection of paintings, and many rubbings taken from monuments of archaeological interest.

Miss Elizabeth McM. Hambleton has given valuable aid in the classification of early Pueblo pottery. As an Associate on the Staff she has been particularly useful in the study of the collections brought to the Museum from the Southwest.

In the number of copies of publications produced, and in the quantity of other miscellaneous matter printed, Field Museum Press exceeded even its 1936 productivity, which had been the largest in the history of the Museum. Elsewhere in this Report, under the heading "Division of Printing," will be found a complete list of the publications issued. Information concerning the distribution of these, nationally and internationally, will be found under the heading "Division of Publications."

To the list of books published under auspices other than those of Field Museum, but sold at this institution, two new titles were added. One of these is *Ecological Animal Geography*, translated by Curator Karl P. Schmidt from an original work in German by Dr. Richard Hesse of the University of Berlin. In revision of the translated book Mr. Schmidt had as his associate Dr. W. C. Allee, Professor of



Ecology at the University of Chicago. The publisher is John Wiley and Sons, New York. The other new title on this list is *Su-Lin*, a story for children about the young giant panda at the Brookfield zoological park of the Chicago Zoological Society. Ruth Ann Waring and Helen Wells are the authors; Rand McNally and Company, Chicago, is the publisher.

Six small books for children known as "The Footprint Series," with texts based entirely on material in Field Museum, and written by Mr. H. B. Harte, the Museum's Public Relations Counsel, were adopted during 1937 by the Chicago Board of Education as reading material recommended to teachers to supplement regular textbooks. They are illustrated with pictures of habitat groups of animals at the Museum. The Orthovis Company, Chicago, is publisher.

The number of men and women employed by the Works Progress Administration on the project at Field Museum during 1937 ranged from 167 to 199. Their aggregate working time amounted to 240,000 hours, and the total amount of wages paid to them by the federal government was \$174,200. It is interesting to note in comparison that the regular employes of Field Museum totaled about 160.

Although the efforts of the WPA workers have been utilized chiefly in routine tasks such as cataloguing, typing, filing, cleaning specimens, mounting photographs, and assisting in the manufacture of accessory material for groups, there have also been many persons who possessed scientific training and knowledge qualifying them for more important undertakings. It follows naturally that because of the co-operation of this organization the Museum has been far better able to serve the people of Chicago and the world. A great deal of scientific material held in storage for many years has been properly cleaned and prepared so as to be available for exhibition and study. More scientific reports have been published and distributed to institutions around the world as a result of WPA assistance in the Division of Printing and the Division of Publications.

Much of the effect of adverse economic conditions on the Museum has been counteracted by the activity of the WPA workers. The value and importance of their accomplishments can scarcely be emphasized sufficiently. They have undertaken tasks that could not have been attempted for many years by the regular staff of the institution, as every staff member has been, and is, fully occupied and unable to assume additional burdens. It should be noted that in no case has a regular Museum employe been displaced by a WPA



worker. The entire effect of the opportunity provided by the assignment of WPA workers has been one of expansion of Museum activities, and not in the least a substitution of personnel. WPA officials in charge of assignments and supervision have given the Museum a wholehearted co-operation which is deeply appreciated, and the project has been characterized by marked efficiency and smoothness of operation.

Field Museum was again host, as it has been each year since 1922, to the Art Research Classes conducted in co-operation with the Art Institute of Chicago. The same instructor who originated this work, Mr. John Gilbert Wilkins, a member of the faculty of the School of the Art Institute, was again in charge. Exhibits in Field Museum are used by students in these classes as suggestive material for their creations in charcoal, crayons, water-colors, oils, and plastics. Members of the classes are advanced students, and many graduates have become successful designers, illustrators, teachers, and creative painters and sculptors. The Saturday School of the Art Institute also continued to send classes of young children as for the past several years. The pupils in these range from children of the fourth elementary grade to those of high school age.

Despite long illness of the Superintendent of Maintenance, the Museum building and equipment were maintained in good order under the supervision of the Chief Engineer. Details of some of the more notable improvements during the year are outlined herewith:

For the Department of Anthropology fifteen exhibition cases were remodeled to accommodate material to be shown in Hall K on the ground floor, which is to be devoted to archaeological collections from Kish resulting from the Field Museum-Oxford University Joint Expedition to Mesopotamia. A plaster frieze of enlarged impressions from Babylonian and other ancient seal cylinders was installed on the walls of the same hall. Two new exhibition cases were built for the jade exhibits in Hall 30, and one new case for the exhibition of flints in Hall B. On the third floor improved lighting was installed in the office of the Chief Curator.

For the Department of Botany a built-in exhibition case for the accommodation of a habitat group of alpine plants of the Rocky Mountains (in preparation) was completed in the Hall of Plant Life (Hall 29). Two more mural paintings of exotic plants were installed on the walls of the same hall. In the Herbarium on the third floor, eight large new storage cases were provided.

For the Department of Geology a new exhibition case was provided for the reinstallation of the model of the Natural Bridge of Virginia. A new exhibition screen was furnished for material added to Ernest R. Graham Hall (Hall 38). On the third floor a partition was removed between Rooms 105 and 106 in order to provide more extensive working quarters for certain members of the Staff. In the chemical laboratory a new exhaust fan was installed for removing fumes.

For the Department of Zoology two new wall cases were installed and equipped, one each in Halls 19 and 21. Seven cases were completed for the exhibition of marine invertebrates. New cases were provided in Carl E. Akeley Memorial Hall (Hall 22) for the okapi and guereza monkey exhibits. The sable antelope exhibit in the same hall was relocated. A new screen was provided for the lemur exhibit in Hall 15. Ten built-in cases were constructed for the accommodation of habitat groups of birds in Hall 20, and six for fish habitat groups in Hall O. The groundwork was prepared for the habitat group of Asiatic takin which was opened during the year in William V. Kelley Hall (Hall 17). All exhibition cases were treated with preservative poison. Various improvements were made in the Department's offices and workshops on the third and fourth floors. A large wall bookcase was installed in Room 90. Twelve especially designed packing cases for the shipment of specimens were constructed for expeditions which the Department had in the field during the year. By building walls around surplus space in one of the corridors a new room was provided for the storage of eggshell specimens. Eighteen steel cases, complete with trays, were installed for the storage of mounted insects. New steel cases were provided for the storage of alcoholic specimens in certain Divisions. Eight storage cases were installed on the east side of the fourth floor for the study collection of birds, and sixty-seven storage trays were also provided.

An extensive project, undertaken to enlarge and improve storage facilities for the study collections of the Department of Zoology, was practically completed by the end of the year. This involved the construction of a mezzanine thirteen and one-half feet wide on the west side of the fourth floor, extending from the taxidermy shop to the paint shop, a distance of 280 feet, and the installation of an additional series of 123 large steel storage cases, bringing the total number of cases in this location to 249. This important improvement was made possible through the generosity of President Stanley

Field. By it the storage facilities on the fourth floor are approximately doubled, and it is estimated that accommodations are thus provided for all zoological accessions which are likely to be received during the next ten years. The cases are of a type suitable for storage of birds, small mammals, bones, and alcoholic specimens of reptiles.

A large new table was made for the reading room of the Library. A book-binders' press in the Division of Printing was rebuilt. Throughout the building window screens which required it were overhauled. A new double door was installed in the corridor at the west end of Hall K. The room provided for student guards was enlarged and rearranged.

In the James Simpson Theatre, sound motion picture projection equipment was installed. A beaded screen and fan blowers for the cooling of stereopticon slides were installed in the small lecture hall, this equipment having been presented to the Museum by Mr. Clarence B. Mitchell. To prevent seepage of light into this hall the windows were blocked up.

Electrical work included the wiring of fifteen cases for Hall K, seven cases for Hall O, and also a built-in case in the latter. Eleven new electrical outlets were installed for wall cases in Hall 21. Electric clocks were installed in the cafeteria and in the fourth floor taxidermy shop. Nine electrically operated water coolers were installed in various parts of the building. A new clutch was installed on the planer in room 38 (one of the third floor workshops of the Department of Anthropology). New brake controls were installed on the passenger elevator.

Due to the rearrangement of the automobile drives passing the Museum, it was necessary to lay 125 feet of new eight-inch cast iron water main under the west drive. Steam return lines in Hall O were considerably altered on account of the construction of new exhibition cases.

A large number of exhibition cases, including all those in Stanley Field Hall and Hall J (the Egyptian Hall) were lifted and cleaned, and many cases in various halls of the Department of Zoology were opened and cleaned. Eleven cases were temporarily installed in Stanley Field Hall.

The walls of twelve halls, five offices, four corridors, and the entrance to the James Simpson Theatre, were washed and starched. Considerable painting was done, especially in Hall K, the south corridor of the ground floor, the third floor shop of the Division of



Printing, and the ground floor carpenter and other shops of the Division of Maintenance. In the Division of Printing partitions were erected to create a new office for the head of the Division. Four downspouts to conduct water off the roof were repaired. Six aisle lights were made for the Simpson Theatre.

Rooms 106 and 108 on the third floor were fitted up as a photographic studio for the use of Mr. Clarence B. Mitchell, Research Associate in Photography, who is engaged at the Museum in the making of natural color pictures of various exhibits.

The brick work on all boilers was overhauled; a feed water meter was installed; a zoning damper was installed on the No. 2 boiler; the coal conveyor was overhauled and equipped with new slides and buckets; and the sump pump rotor in the boiler room was repaired. A saving of several hundred dollars was accomplished by using boiler compound prepared by the Museum's own engineering force. A number of additional radiators were installed for heating in various parts of the building.

Under the contracts in force for a number of years, the Museum's heating plant continued to furnish steam required by the John G. Shedd Aquarium and Soldier Field, 13,930,834 pounds of steam being furnished to the former, and 8,767,997 to the latter.

The Museum again benefited by favorable rates for electrical current under the "peak load contract" which has been in effect with the Commonwealth Edison Company for several years. This contract imposes certain restrictions on the use of electric light and power during the period from November 1 to February 28.

Reports in detail of the year's activities in each of the Museum's Departments and Divisions will be found in the pages which follow:

## DEPARTMENT OF ANTHROPOLOGY

### EXPEDITIONS AND RESEARCH

Archaeological field work in southwestern Colorado, suspended since 1934, was resumed, in 1937, under the leadership of Chief Curator Paul S. Martin. The expedition was financed through the generosity of President Stanley Field.

Mr. Carl T. Lloyd, of Harvard University, was in charge of photography and the archaeological reconnaissance, and Mr. Alexander Spoehr, of the University of Chicago, of the surveying and excavating. The Museum gratefully acknowledges the work done by three volunteer assistants: Mr. Charles Di Peso, Mr. Frank



Gregg, and Mr. John Harpham. Acknowledgment is likewise due to Mr. and Mrs. Clyde D. Long, of Ackmen, who kindly permitted the expedition again to use their ranch for camp headquarters; and to Mr. Ben Williford, of Ackmen, who allowed the excavation of four ruins on his ranch. The Museum also wishes to thank Mr. B. L. Bolling, of Mason City, Iowa, for his co-operation.

In previous years Dr. Martin had excavated in this region one large site, known as the Lowry Ruin, and various smaller ones known as unit-type houses. This work shed some light on the cultural history of the area during the period from about A.D. 950 to 1100. But nothing was known about the earlier history of this locality.

It was Dr. Martin's aim, therefore, during the 1937 season, to excavate various small ruins and seek clues concerning the earlier history of the region. An intensive survey of the Ackmen-Lowry area was first undertaken. The first three weeks were entirely devoted to this task; later, it was continued intermittently. In order to obtain significant data which could be handled quantitatively and which could be fairly compared, it was considered necessary to do two things: (1) to cover practically every square foot of ground in the area being examined, collecting 100 sherds from every ruin; and (2) to work equal land areas. If these two rules were observed, the survey would be made objective, ignoring the unproven idea that the Indians preferred certain topographic conditions for their habitations. Furthermore, by surveying equal areas of land in each section of a township, one would obtain data which could be handled quantitatively, and could, by all rules, be fairly compared. As lack of time made it impossible to survey complete township sections, such thorough activity was restricted to the northwest and the southeast quarters of each section. In this way sixteen and one-fourth square miles in the Ackmen-Lowry region were carefully examined, and 180 sites in all were discovered. Mr. Lloyd's report on this work will be published with Dr. Martin's.

The survey, to which a theoretical approach was worked out, produced a number of interesting problems. This may have many ramifications and result in a definite contribution to survey methods.

After devoting three weeks to survey work, some excavations were started on what appeared to be sites of the periods designated by archaeologists as "Pueblo I" or "Pueblo II" sites.

Site 1 consisted of a slab structure and an associated proto-kiva or pit house. There was no way of telling whether the pit structure was used for ceremonies, for habitation, or for both. The roof of

the kiva-pit house was supported by four posts set in the floor. A low bench encircled a part of the outer zone. A *sipapu* or hole in the floor through which communication with the spirits was believed possible, as well as a rectangular firepit, and a ventilator, were discovered. No deflector was observed.

The slab structure was small (about six feet wide), and may have been used for storage purposes. Fragments of masonry were found on top of some of the slabs.

Just north of the slab house, a number of postholes were discovered. These were used for holding posts which may have formed a lean-to, the purpose of which is unknown.

Site I may possibly be classified as Pueblo I or developmental Pueblo.

Site 2 included a proto-kiva and two surface rooms. This proto-kiva contained a masonry banquette, on which were crude stone pilasters. The walls above the banquette were of dirt. Neither *sipapu* nor deflector was noted.

The walls of the above-ground rooms were of exceedingly crude horizontal masonry. The stones were of all sizes and were not cut, shaped, or trimmed in any manner. It cannot be stated definitely whether or not these rooms were used for habitation. They were large enough certainly.

Site 3, which appeared more like an early unit-type pueblo, consisted of four rooms and probably two kivas. One kiva was excavated. It was "primitive" in some ways, for the walls were of earth and a bench was lacking; but on the south was a typical southern recess such as was so common in later unit-type and Mesa Verde kivas. The roof was supported by four posts. A deflector in the normal position was noted, but no *sipapu*.

The walls of the rooms were composed of horizontal masonry, and were the best found during the season. It is possible that these rooms were used for domiciliary purposes.

Site 4 was, most likely, occupied twice, the first occupation representing a culture older probably than any other found during the season. The original complex comprised two unconnected, wattle-and-daub structures, and a proto-kiva. The proto-kiva was nearly round. The roof had been supported by five posts, and no deflector or *sipapu* was noted.

As the proto-kiva later had been cleaned out, enlarged and reoccupied, it is difficult to decide whether it was associated during

its first occupation with the two wattle-and-daub rooms. The people who later occupied it added a mud bench on which were placed six masonry pilasters, and some masonry in the wall around the ventilator tunnel. At the same time, the size of the ventilator opening was reduced.

The method used in excavating was as follows: Each site was staked out in two-meter squares. Digging was done by squares and by levels, each level being 20 centimeters deep.

A report on the work of this expedition is being prepared by Dr. Martin for publication early in 1938.

At the Museum, Curator Albert B. Lewis finished research necessary for installing material from Korea, Japan, eastern Siberia, Ceylon, Andaman and Nicobar Islands, and India for Hall K during the early part of the year.

Curator Richard A. Martin spent most of the year cleaning, cataloguing, and sketching specimens from Kish and in research upon them. Under his supervision several hundred pieces of Sasanian stucco were restored, and their installation is now in progress.

Curator Henry Field continued his leave of absence, begun in 1936, until June, 1937, in order to attend Harvard University where he took two courses in physical anthropology under Dr. E. A. Hooton. There he also prepared statistical data for publication in reports on the physical anthropology of the peoples of Iraq, Iran, and Georgia (U.S.S.R.). In addition, he has almost completed his report, *Contributions to the Anthropology of Iran*, which is scheduled for publication in 1938.

The degree of doctor of science was conferred upon Curator Field in June by Oxford University, in recognition of his published research work on the physical anthropology and prehistory of southwestern Asia, and his monograph, *Arabs of Central Iraq, Their History, Ethnology, and Physical Characters*, published by Field Museum Press. Curator Field went to England to receive the degree.

Curator Wilfrid D. Hambly spent most of the year supervising the publication of his *Source Book for African Anthropology*. Dr. Hambly also continued anthropometric work on a large series of skulls from New Guinea. This collection was made by Dr. Albert B. Lewis, leader of the Joseph N. Field Expedition (1910-13). A beginning was made with the study and statistical treatment of anthropometric data collected by Curator Hambly among men of the Ovimbundu tribe of Angola, during the Frederick H. Rawson-Field Museum Ethnological Expedition to West Africa (1929-30).



Curator C. Martin Wilbur catalogued the collection of nearly seven hundred Chinese art objects bequeathed to the Museum by Mrs. George T. (Frances Ann Gaylord) Smith. The jades in this collection were placed on exhibition in the Hall of Jades (Hall 30).

Editorial work was completed by Mr. Wilbur on one of the manuscripts left unfinished by the late Dr. Berthold Laufer, former Curator of Anthropology. The outline of an analytic index of the extensive Chinese collections was drawn up, and the indexing was completed, under Mr. Wilbur's guidance, by Mrs. Arthur Willis, junior archaeologist assigned to the Museum by the Works Progress Administration.

Mrs. Edna Horn Mandel, Associate on the Chinese Collections, engaged in a volunteer project for the systematic study of Field Museum's collection of Chinese paintings, with Mr. Wilbur co-operating. An important preliminary phase of this project was the planning and construction of an adequate yet simple storage case, designed by Mrs. Mandel, for several hundred paintings of various dimensions. Mrs. Mandel also devised and established a clever cataloguing system especially adapted to Chinese paintings and rubbings.

Mr. Wilbur assisted Mr. Clarence B. Mitchell, Research Associate in Photography, in the selection of Chinese jades for photographing in full natural color. Mr. Mitchell's photographs are of superb quality, and will be of great use and value to the Museum for purposes of record, lectures, publicity, and other uses.

Invaluable aid has been rendered the Department by Miss Elizabeth McM. Hambleton, Associate in Southwestern Archaeology. Miss Hambleton has catalogued several large collections of southwestern pottery, has classified and computed the percentages on more than 15,000 pieces of pottery from the 1937 Expedition to Southwestern Colorado, has compiled these data statistically and graphically, and has edited and rewritten portions of reports submitted for publication.

Among the anthropological publications issued during the year by Field Museum Press were *Skeletal Material from San José Ruin, British Honduras*, and *A Source Book for African Anthropology*, both by Curator Wilfrid D. Hambly. Dr. Hambly has worked on the text of the latter book, which is in two large volumes, since 1930. It offers a comprehensive survey of the ethnology, archaeology, physical anthropology, and modern social problems of Africa. Such a textbook and work of reference has been needed for teaching institutions, museums, and public libraries for many years. The publication con-



tains 111 illustrations, five maps, and a large bibliography, which is classified by authors and subjects. The text, bibliographies, and indexes fill almost a thousand pages.

Also published were *Textiles of the Early Nazca Period*, by Dr. Lila M. O'Neale, and *Canete Valley*, by Dr. A. L. Kroeber. These publications constitute Numbers 3 and 4 of Volume II of the Anthropology Memoirs Series. The Leaflets, *Races of Mankind*, and *Prehistoric Man*, by Curator Henry Field, were revised and republished.

A vast amount of the time of the Department staff has been spent in answering a wide variety of lay inquiries, which constantly pour in by letter and by telephone. Assistance has been rendered in identifying and attributing specimens brought in by visitors. Likewise, much help has been given various students and scholars seeking special aid in assembling data on specimens, photographs, and bibliographies in connection with writing or research in which they are engaged. A great amount of time is also given to supervising various useful tasks upon which Works Progress Administration workers are engaged.

Thirty-one articles were contributed by the staff of this Department to *Field Museum News*. The staff also supplied data used in twenty-four newspaper articles.

Material collected in 1928 by the Field Museum-Oxford University Joint Expedition to Mesopotamia (Iraq) figured in important research whereby Professor Wolfgang Amschler, of the College of Agriculture, Vienna, Austria, established that the history of the domestic horse dates back a thousand years earlier than had previously been believed. Professor Amschler identified teeth and bones excavated by the Museum expedition from the Early Dynastic I (ca. 3000–2800 B.C.) tombs at Kish, Iraq, as those of *Equus caballus*. The earlier theory was that the horse was introduced into Babylonia by the Kassites during the early portion of the second millennium B.C.

#### ACCESSIONS—ANTHROPOLOGY

Accessions received and recorded during the year amount to twenty-six, of which twenty-three were acquired as gifts, one was acquired by exchange, one by purchase, and one by a Museum expedition. The total number of objects included in these accessions is 16,313.

A complete list of Accessions will be found at the end of this Report. Some outstanding ones require special mention here:

From Mr. Harold S. Gladwin, Director of Gila Pueblo, Globe, Arizona, was acquired an important type collection of pottery from the southwestern United States. The estate of Mrs. E. D. Christie, of Chicago, was the donor of an embroidered Persian shawl of great beauty and value. From Miss Mary I. Jones, of Detroit, Michigan, a gift of twenty-three pieces of Chinese jewelry was received. Mr. Homer E. Sargent, of Pasadena, California, an ever generous donor, added, to the already priceless collection which he has gathered and presented to the Museum over a long period, twenty-two excellent baskets made by Indians of California, Oregon, and Washington. Mr. F. O. Thompson, of Des Moines, Iowa, made a gift of twenty pairs of silver earrings from Toluca, Mexico. Mr. N. Dwight Harris, of Evanston, Illinois, presented two images of Chinese deities, one of brass and one of wood. About 15,000 specimens were acquired as a result of the Field Museum Archaeological Expedition to the Southwest. These consist mainly of potsherds taken from various levels of the four excavated sites, but include also many restorable pots and some bone and stone tools. A number of charred logs were likewise recovered, and these have been sent to Dr. Emil W. Haury of the University of Arizona, at Tucson, for dating.

#### CATALOGUING, INVENTORYING, AND LABELING—ANTHROPOLOGY

Entries were made for fourteen of the twenty-six accessions received during the year. Likewise, there were entered twenty-one accessions of previous years.

The number of catalogue cards prepared during the year total 8,561, of which 1,792 were entered. The total number of catalogue cards entered from the opening of the first volume is 216,070.

The catalogue cards for the current year were distributed as follows: North American archaeology and ethnology, 1,405; Central and South American, and Mexican archaeology and ethnology, 24; European archaeology and ethnology, 50; Chinese archaeology and ethnology, 718; African ethnology, 3; Kish archaeology, 6,355; Persian ethnology, 1; East Indian ethnology, 2; physical anthropology, 3.

The Division of Printing supplied a total of 2,162 labels for use in exhibition cases. These labels were distributed as follows: Hall of the Races of Mankind, 813; North American archaeology, 20; ethnology of the Southwest, 26; Lowry Ruin, 2; Ainu, Burma, Ceylon, Korea, and eastern Siberia, 437; India, 326; China, 240; Greece and Rome, 1; Andaman and Nicobar Islands, 287; and for a

special exhibit, 10. The Division of Printing also supplied 4,700 catalogue cards, 26,000 index cards, 2,200 record sheets, and other similar material.

The number of additional photographs mounted in the departmental albums is 372. One new photograph album was opened.

Workers assigned to the Department by the Works Progress Administration of the federal government accomplished an extraordinary amount of useful work in cleaning, repairing, and cataloguing specimens, preparation of exhibition material, and clerical duties.

#### INSTALLATIONS AND REARRANGEMENTS—ANTHROPOLOGY

Installation of materials for a new Hall of Asiatic Ethnology (covering regions outside of China and Japan) has continued throughout the year. The specimens to be exhibited have never before been shown. It has been necessary for Curator Lewis to sort the collections, catalogue many of the specimens, and engage in special research in order to write correct labels. During 1937 Dr. Lewis, with the assistance of Preparator J. William Harrison, finished fourteen cases. These contain objects from Korea, India, Nicobar Islands, Andaman Islands, Siberia, and the islands of Yezo and Sakhalin.

Curator Wilbur, assisted by Mr. Harrison, installed three cases of jade in the Hall of Chinese Jades (Hall 30). The specimens were bequeathed to the Museum in 1936 by the late Mrs. George T. (Frances Ann Gaylord) Smith. By means of special case lighting the variety of colors of the jades is brought out, and the translucency and internal structure of some of the specimens is revealed.

In Hall B (archaeology of North America), a special exhibit illustrating a method of manufacturing chipped stone implements was planned, prepared, and installed by Mr. L. L. Pray, of the Department of Zoology, assisted by Preparator Herbert E. Weeks and Miss Nell Starkson (employed for the Museum by the federal Works Progress Administration). Chief Curator Martin supervised the creation of this exhibit.

Preparator Weeks installed several cases of lower invertebrates for the Department of Zoology.

Sorting, cleaning, repairing, and identifying of specimens in storage were continued under the direction of Mr. Paul Warner, a competent ethnologist employed by the federal Works Progress Administration.

A subject index of specimens was begun by Mrs. Elizabeth Willis, anthropologist employed by the Works Progress Administration.





DRAGON-BLOOD TREE OF TENERIFFE

Mural painting by Charles A. Corwin

Hall of Plant Life (Hall 29)



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All specimens from the Near and Far East have already been indexed and their location in the Museum noted.

Mr. Tokumatsu Ito, who is in charge of special repair work for the Department, treated, repaired and restored 275 objects. Mr. Robert Yule, assistant and letterer in the Department, marked identification numbers on 2,247 objects, made many drawings needed for publication, and assisted the Chief Curator in many other ways.

## DEPARTMENT OF BOTANY

### EXPEDITIONS AND RESEARCH

Late in January Mr. Llewelyn Williams, Curator of Economic Botany, sailed from New Orleans, for Coatzacoalcos, or Puerto Mexico, in the state of Veracruz, to make a general botanical collection on the Isthmus of Tehuantepec and to bring together a representative collection of wood specimens for study purposes. The region in which operations were conducted embraces parts of the states of Veracruz and Oaxaca, where a variation of vegetative zones and a wealth of plant species are found within a comparatively small area.

The first ten weeks, from early February to April, were spent in various mahogany camps at Fortuño, a tract of forest land measuring about 270 square miles between the Rivers Coatzacoalcos and Coahuacan. The task of obtaining herbarium and wood specimens was greatly simplified by following the men who were felling mahogany, Spanish cedar, primavera, and other woods exported to the United States.

From the middle of April until late in June collecting was continued farther south at Uvero and Tolosita, in the state of Oaxaca. The terrain here is more hilly than at Fortuño, and the vegetation shows some distinction. Several species of plants that had not been reported previously from Fortuño were collected in this area. During May a trip was made also to Salto de Agua and Palenque, in northern Chiapas, a region rich in mahogany and chicle trees, the latter the source of latex used in the manufacture of chewing gum.

Late in June collecting was begun at Salina Cruz on the Pacific coast. Unlike the wet climate and dense tall forest growth on the side of the isthmus facing the Gulf of Mexico, the climate around Salina Cruz is extremely dry, resulting in the stunted vegetation of cacti, armed shrubs, and small trees characteristic of arid zones. The next collecting center was Tehuantepec, a historic city about

thirty miles inland, surrounded by the cloud-covered ranges of the Sierra Madre. At Almoloya, about halfway between Uvero and Salina Cruz, an opportunity was provided to obtain specimens of pine and several species of oak which abound on the upper slopes of the hills encircling the plain on which this small village stands.

Assistance greatly facilitating the work was given by various American individuals and concerns operating in Mexico, and Field Museum wishes to express its cordial appreciation for the co-operation extended by them. Special acknowledgment should be made to Mr. Frederick J. Riker, President of the Maderas Tropicales, at Minatitlán, Veracruz, through whose interest and generosity accommodations and native help were provided during the time spent by Mr. Williams at Fortuño, on the Coatzacoalcos River. The Museum is likewise grateful to Messrs. Bruce L. Hoover, James Barker, and D. C. Crawley for the hospitality and generous help given to Curator Williams during his stay of several weeks at Uvero and Tolosita, Oaxaca.

As a result of the expedition there were obtained 1,650 herbarium specimens, including several new or rare species, in most instances with one or more duplicates. Also obtained were more than 500 specimens of woods, each one having corresponding herbarium material; numerous specimens of fruits, seeds, and gums for addition to the economic collections; and 462 photographic negatives of trees and other subjects.

It has long been the desire of the Department of Botany to obtain for its exhibits a specimen of *Welwitschia*, a remarkable woody plant of great botanical interest, existing in limited numbers only in some localities in southeast Africa where it is now protected by law. This year the Portuguese government granted permission to Field Museum to obtain a specimen in Angola, and Professor H. Humbert, Director of the Division of Phanerogams, of the Muséum d'Histoire Naturelle in Paris, kindly agreed to visit, on his way to Madagascar, the Portuguese African colony on behalf of Field Museum. Making several excursions into the Mossamedes Desert, he obtained a complete collection of dried and preserved material of this extraordinary gymnosperm. The carefully packed specimens arrived in the United States Customs House in Chicago a few days before the end of the year.

The Museum acknowledges special indebtedness not only to Professor Humbert for his services, and for his detailed observations and notes on this plant, but also to Dr. M. A. Pimentel Teixeira,

of Mossamedes, and to officials of the colonial forest and irrigation service of Angola, for their co-operation with Dr. Humbert in securing and shipping this material.

In Europe, Associate Curator J. Francis Macbride, continuing his work described in previous Reports (1929 to 1936 inclusive), of photographing tropical American plant type specimens, divided his time during 1937 between the herbaria at Geneva and Paris. At the Conservatoire et Jardin Botaniques of Geneva he was enabled, through continued co-operation of Dr. B. P. G. Hochreutiner, Director, to photograph further types from the rich collections of that institution. He also had photographed there a large number of specimens lent for the purpose by the herbaria of Vienna and Madrid.

Material at Vienna had been selected for photographing during the previous year, and its loan was made possible by the interest of Dr. Karl Keissler, of the Naturhistorisches Museum. Similarly, the Madrid specimens had been selected during a visit to the Jardin Botánico before the beginning of the civil war in Spain. Permission to forward them to Geneva, where they could be photographed more conveniently, was then generously extended by the Director, Dr. Antonio García Varela.

A particularly important series of negatives, obtained by Mr. Macbride in Geneva, is that of copies made there more than a century ago of the drawings of the Sessé and Mociño collection of Mexican plants. The originals of these drawings are lost, but the copies, made by De Candolle, are the basis for descriptions of numerous new species. Previously there have existed in the United States only poor tracings of some of these plates, which are important for study of the Mexican flora. It is hoped that these photographs may facilitate the recognition of some of the Sessé and Mociño plants whose identity has long been uncertain. They will be particularly valuable in study of the Sessé and Mociño Herbarium, now on loan at Field Museum, having been sent here by the Jardin Botánico of Madrid early in 1936. The story of the Sessé and Mociño Expedition, incidentally, served as the topic for one of Field Museum's radio broadcasts during the summer of 1937.

At the end of 1937 there had been received at the Museum 5,789 negatives made under Mr. Macbride's supervision during the past two years. The total number of such negatives of type specimens now at hand is 34,289, illustrating almost as many species of tropical American plants. Together they represent the majority of species



known from South America, and form a study series which for completeness is equaled in few if any other institutions.

The practical utility of these photographs is realized by all botanists who have seen them, and they are constantly in demand for monographic research in both America and Europe. Similar photographic work upon so extensive a scale has never before been undertaken by any botanical institution. Prints from the negatives are made available by the Museum to botanists generally. During the past year 3,115 such prints have been furnished at cost of production to institutions in North and South America, and many others have been sent in exchange for similar type photographs desired by Field Museum.

Collections received for determination and study from widely scattered sources have occupied fully the time of the Herbarium staff throughout the year. Care of the Herbarium has been greatly facilitated by the employment throughout 1937 of a large number of workers supplied by the Works Progress Administration of the federal government. Although direction of the WPA workers has consumed much of the time of the staff, this is justified by the results accomplished. There have been mounted and added to the Herbarium 40,255 sheets of specimens and photographs, and more than 12,400 printed or typewritten descriptions of new species of plants. These figures indicate rapid growth, and compare well with similar data for other large herbaria of the world. The total number of specimens now in the Herbarium is 894,500. All work of mounting has been brought up to date, and only current collections remain. These are handled promptly, the mounted specimens being distributed into the permanent study collections within a few weeks of receipt, making new accessions quickly available for consultation.

Good progress has been made at cleaning and repairing sheets in the general Herbarium. Several persons were occupied with this task during the year, to the great benefit of the collections. Many hundreds of new covers for genera and species were written, data upon the sheets were corrected and amplified, and search was made for misplaced specimens such as occur, in spite of all care, in every large herbarium.

Considerable work was also done in rearrangement, according to recent literature, of certain groups of plants. The greater part of the grasses, for instance, was thus rearranged in accordance with recently published manuals and floras. A large amount of surplus



GOLDEN SHOWER

Flowering and fruiting branch of *Cassia fistula*, a leguminous tree of India, reproduced from nature  
Hall of Plant Life (Hall 29)

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palm material, originally collected for the exhibits, was cut up and prepared for incorporation into the Herbarium.

There were submitted to the Herbarium for study and determination more than 13,280 specimens of plants, principally from tropical America and the United States, but representing also various other regions. While part of this material was returned to the senders after determinations had been made, the larger portion was retained for preservation in the Herbarium. Besides, there were named but not retained for the collections many plant specimens from the Chicago region and elsewhere that were brought or mailed to the Museum by visitors, teachers, and students. Hundreds of inquiries regarding the most varied botanical matters were answered by mail and telephone.

During 1937 the Herbarium has been consulted by many visiting botanists, not only from the Chicago region but from near and remote parts of the United States, and also from foreign countries. It has been used frequently by scientists and students from the several large universities in or near Chicago and elsewhere in Illinois or neighboring states. Its use is intensified by the fact that it is the only large herbarium existing within a radius of several hundred miles. The staff of the Museum's own Department of Botany, of course, utilizes it constantly as a source of information and as the basis of original studies.

Botanical publications of 1937 much exceeded, in number of pages, those of any previous year in the Museum's history, and included one complete volume of the Botanical Series. Among them is Number 3 of Volume IX, *Useful Plants and Drugs of Iran and Iraq*, by Dr. David Hooper of Wellcome Historical Medical Museum, London, with notes by Dr. Henry Field, Curator of Physical Anthropology at Field Museum. This publication is based on the economic part of the collection of plants and notes made by the latter on the Field Museum Anthropological Expedition to the Near East (1934).

Of Volume XIII, *Flora of Peru*, by Associate Curator J. Francis Macbride, two parts were issued. This work is intended to be a descriptive account of all flowering plants known from Peru, and is based primarily on the Museum's extensive Peruvian collections obtained chiefly by its botanical expeditions to that country. When completed, this work will consist of six large volumes, of which six scattered parts have been issued to date. In the parts published during 1937, accounts of certain families were contributed by the



Rev. Mr. F. E. Wimmer, of Vienna, Dr. R. Pilger, of Berlin, and Mr. Ellsworth P. Killip, of Washington, D.C.

Volume XVI, issued in 1937, contains more than 700 pages and 189 text figures. It is devoted to an account of the genus *Bidens*, by Dr. E. E. Sherff, Research Associate in Systematic Botany at Field Museum. The genus, with 233 species, is one of the largest of the vast family Compositae, and is represented in tropical and temperate regions of almost the whole earth. The volume represents many years of research, based upon material from all the larger herbaria of both hemispheres.

Of Volume XVII three parts were published during 1937. Number 1 is *The North American Species of Rumex*, by Dr. K. H. Rechinger, Jr., of the Naturhistorisches Museum, Vienna. Numbers 2 and 3, *Studies of American Plants*, Parts VII and VIII, by Curator Paul C. Standley, are devoted principally to descriptions of new species of tropical American plants.

Volume XVIII, by Curator Standley, enumerating and describing the *Flora of Costa Rica*, is based upon studies in both field and herbarium. The two parts published, consisting of 790 pages, cover perhaps three-fifths of the plants known from that small Central American republic, which possesses one of the most varied floras of all tropical regions.

During the year Curator Standley published in various periodicals three short articles on American plants. He also contributed accounts of several families to the *Flora of Peru*, and descriptions of new species that appeared in papers published by other authors.

Two additions were made to the Museum's series of Botanical Leaflets. Number 20, *House Plants*, by Robert Van Tress, Horticulturist at Garfield Park Conservatory, illustrates and describes, with directions for their care, about thirty ornamental plants most commonly sold and used for window-gardening and home decoration. In addition, it lists some fifty others, less usual, that may be grown for the same purpose. Number 21, *Tea*, by Mr. Llewelyn Williams, Curator of Economic Botany, deals briefly with the history of the tea plant, its cultivation in the various tea-growing countries, and methods of classifying tea and preparing it for market.

Members of the Department staff prepared for the periodical *Tropical Woods* a large number of abstracts and reviews of current literature relating to woody plants of the tropics. They contributed many articles for *Field Museum News*, as well as data for various newspaper articles.

## ACCESSIONS—BOTANY

During 1937 the Department of Botany received 303 accessions, comprising 53,551 specimens. Both the number of accessions, and the number of specimens included in them, were much larger than in the preceding year, and their value was apparently much greater. The accessions included specimens for the exhibits, for the Herbarium, and for the wood and economic collections. Of the total number, 15,192 were gifts, 22,307 were acquired in exchange, 3,053 were purchased, 11,970 were obtained by Museum expeditions, and the remainder were received from miscellaneous sources.

The most important single accession for the exhibits received during the year was of paleobotanical character, viz., one of the well-known fossil cycad trunks collected years ago in the Black Hills of South Dakota by the late President T. H. Macbride, of the University of Iowa. This was obtained, by exchange, through the friendly co-operation of Mr. Fred Thompson, of Des Moines, and the courtesy of Dean G. F. Kay, of the University of Iowa. These remarkably preserved plant fossils have been made famous through the monograph on them by Professor G. R. Wieland, of Yale University. The Museum's specimen will serve as the basis for a three-dimensional restoration to which will be assigned an appropriate place in the botanical exhibits.

To the collections of economic material and woods there were added 704 specimens. Almost two hundred of these were contributed by individuals, and scientific or commercial institutions, as gifts or exchanges. The remainder, including a trunk of a Mexican rubber tree for the rubber exhibit in Hall 28, and some five hundred specimens of woods, were assembled by the Field Museum Botanical Expedition to Southern Mexico. The names of all contributors will be found in the list of Accessions (p. 254); particular mention of a few follows herewith.

Mr. B. A. Krukoff, of New York, who has done much collecting in the Amazon region and elsewhere, presented several samples of Pará rubber, barks of trees, roots used for fish poison, and latex from various species of trees, all assembled by him during 1933 in Brazil. The Hammermill Paper Company, Erie, Pennsylvania, furnished samples of unbleached, bleached and colored paper pulp and machine stock to replace material which had deteriorated or become discolored after being on display for several years. Friends of the Western Mountains, through their secretary, Mr. C. E. Graves, gave the Museum photographs of red alder and

Sitka spruce, required to complete the exhibits of those woods in Charles F. Millspaugh Hall (Hall 26). Through the courtesy of Mr. O. A. Oakes, Evanston, Illinois, there were received four large planks of important commercial woods of New Zealand. These are particularly appreciated because heretofore no material from that country has been available for exhibition in the Hall of Foreign Woods (Hall 27). From Mr. S. M. Le Barron, New Orleans, Louisiana, there were received several planks of woods from Mexico, including walnut and primavera.

Of the total receipts, specimens for the Herbarium amounted to 52,682, including plant material, photographs, and typed descriptions. A large amount of exceptionally valuable herbarium material was received through exchange. First in importance was a sending of 4,709 specimens from the Naturhistorisches Museum, Vienna, transmitted by Dr. Karl Keissler, Director of the Botanical Section. This large series consisted in major part of old collections from Brazil and Peru, representing type material of several hundred species discovered by the earlier collectors, and not represented previously in American herbaria. Another exchange of similarly valuable material, amounting to 665 specimens from tropical America, was received from the Muséum d'Histoire Naturelle (Phanérogamie), Paris, through the courtesy of Professor H. Humbert. The Conservatoire et Jardin Botaniques, Geneva, in continuation of previous generous sendings of plants, transmitted 1,837 specimens of historical interest, which supplement admirably the series of type photographs made in that institution by Associate Curator Macbride. This new shipment was made possible by the courtesy of the Director, Dr. Hochreutiner.

Other important receipts of specimens through exchange included 357 specimens of Mexican plants, from the Arnold Arboretum, Jamaica Plain, Massachusetts; 406 specimens of California plants, from the California Academy of Sciences, San Francisco; 378 specimens of Utah plants, from the Carnegie Museum, Pittsburgh; 2,078 specimens from Guatemala and the United States, from the Department of Botany, Cornell University, Ithaca, New York; 339 specimens collected in Glacier National Park, Montana, from the Department of Botany, De Pauw University, Greencastle, Indiana; 550 specimens of Hawaiian plants, from Dr. F. Raymond Fosberg, Philadelphia; 412 specimens of United States and Brazilian plants, from the Gray Herbarium of Harvard University; 204 specimens of Argentine plants, from the Instituto de Botánica Darwinion, San Isidro, Argentina; 521 specimens and photographs of unusual his-



torical interest from the Národní Museum, Prague, Czechoslovakia; 360 specimens of North Dakota plants, from the North Dakota Agricultural College; 668 specimens and photographs, representing chiefly species of tropical America, from the United States National Museum; 587 specimens, chiefly of Mexico and Central America, from the Herbarium of the University of Michigan; 851 specimens of United States plants from the Department of Botany, University of Minnesota; and 627 specimens of Canadian plants, from the Department of Botany, University of Montreal.

Among numerous gifts of herbarium material accessioned during the year are many of outstanding value, particularly from tropical America. Among these may be mentioned 335 Mexican plants, from the Bailey Hortorium, Cornell University, Ithaca, New York; 134 specimens of Costa Rican plants, from the Department of Botany, Carleton College, Northfield, Minnesota; 228 specimens of Colombian plants, from the Rev. Brother Elias, Barranquilla; 730 beautifully prepared specimens from Jardim Botânico de Bello Horizonte, Brazil; 567 specimens of Guatemalan plants from Dr. John R. Johnston, Chimaltenango; 667 specimens of Brazilian plants, from Mr. Boris A. Krukoff, New York; 1,085 specimens of Costa Rican plants, from the Museo Nacional, San José, through its director, Professor Juvenal Valerio Rodriguez; 184 specimens from Professor J. Soukup, Puno, Peru; 237 specimens from Professor Manuel Valerio, San José, Costa Rica; 219 specimens of Peruvian plants, from Dr. César Vargas, Cuzco; 325 specimens of Brazilian plants from the Museu Paraense Emilio Goeldi, Pará; and 218 specimens of plants of Honduras, from Professor T. G. Yuncker, Greencastle, Indiana.

The Department of Botany of the University of Texas, through Professor B. C. Tharp, presented 1,431 specimens, chiefly from western Texas and northeastern Mexico, most of which were named at Field Museum. In continuation of his practice of former years, Professor Samuel J. Record, of the Yale School of Forestry, New Haven, Connecticut, forwarded 258 specimens representing woody plants of South America, Africa, and the Pacific Islands. The largest single gift of the year consisted of 4,078 specimens from Missouri, presented by Assistant Curator Julian A. Steyermark. This material is chiefly from the Ozark region, and was obtained during an intensive survey carried on during the past summer. Mr. J. S. Daston, Chicago, contributed twenty-four specimens of cacti collected by him in the southwestern United States and in Mexico.



Other gifts include 315 specimens from the United States and Europe, being the private herbarium of the late Mrs. Abigail Butler, presented by Mr. McCrillis Butler, Chicago; 236 specimens from the central states, by Mr. Hermann C. Benke, Chicago; 850 specimens of Utah plants, from Dr. Helen Dixon, Chicago; 438 specimens of New Mexico plants, from Sister M. Marcelline, Grand Rapids, Michigan; 165 specimens of Texas plants, from Mr. Ernest G. Marsh, Jr., Austin; 357 specimens of Missouri plants, from Mr. George Moore, Lebanon; and 566 plants of various regions, from Dr. E. E. Sherff, Chicago.

#### CATALOGUING, INVENTORYING AND LABELING—BOTANY

Workers assigned to the Department by the federal Works Progress Administration rendered great assistance in the reorganization and arrangement of reference and exchange material, of herbarium and economic specimens, and of woods. They also performed many and varied tasks of typing. More than 257,000 catalogue cards were written by them for permanent and temporary files, some of which, when completed, will be of extraordinary practical value. Many thousands of herbarium and wood collection labels were prepared for the permanent collections and for duplicates sent out as exchanges.

The economic collections, stored in large part in the lockers under the exhibition cases in Halls 26, 27, 28 and 29, were again thoroughly gone over. For convenience in future reference, each locker was supplied with a typed list of its contents, checked against the existing catalogues of this material.

During 1937 there were distributed, to institutions and individuals, forty-five lots of material, including 11,437 herbarium specimens, wood specimens, photographs, and typed descriptions of new species. These were sent to numerous institutions and individuals in North and South America, and Europe. Sixty-three lots of specimens were lent for study to institutions and individuals in North and South America, and Europe, and fifty-one lots were received on loan, for study or determination.

#### INSTALLATIONS AND REARRANGEMENTS—BOTANY

An important improvement for the botanical exhibits was made early in the year by the construction of built-in cases in the unoccupied north end of the Hall of Plant Life (Hall 29) to provide exhibition place for three of six ecological groups planned for this hall.

The three groups which will occupy this end of the hall are designed to represent characteristic aspects of the vegetation of the frigid and temperate zone. Those planned for the south end will illustrate plant formations of the tropics and subtropics.

Work on two of the groups has been under way for some time. Material for the first one, a large diorama of an alpine meadow with a special variety of arctic vegetation, selected for its ready accessibility, was collected first in 1927. Work on it was then carried on for some months, but was halted in favor of completing the Carboniferous forest reconstruction now on exhibition in Ernest R. Graham Hall (Hall 38) of the Department of Geology. Resumed in 1936, work on the alpine group was brought near to completion in 1937, with the aid of workers supplied by the Works Progress Administration.

Material, photographs and observations on which the group is based were obtained in the Medicine Bow Range in Wyoming at an altitude of 12,000 feet above sea level, near the University of Wyoming summer camp about forty miles from Laramie. The exhibit, a twenty-five foot diorama, when completed will represent a Rocky Mountain summer landscape at the timber-line, where alpine conditions determine the character of the vegetation. The painted background will show an extensive plain with snow-capped mountains in the distance. In the foreground reproductions of the flora of the alpine meadow will illustrate its late midseason condition—early spring flowers still in contact with remaining snow on the one hand, while on the other, farthest removed from the snow, vegetation far advanced and beginning to assume aspects ranging from those of late summer to autumn. The simultaneous presence of spring, summer and autumn conditions is characteristic of such a habitat. Lingering snow retards the blooming of the spring flora, while at the same time the quick growth and rapid succession demanded by the shortness of the growing period brings into flower and fruit, in the space of a few weeks, a tufted carpet of low-growing, flowering herbs, along with some stunted juniper and prostrate spruces as the only representatives of the woody vegetation below.

The preparation of this group, including all details involved in the collection of botanical specimens and other material and data, as well as the reproduction of the large number of individual plants of more than thirty species represented, has throughout been in charge of Mr. Emil Sella, of the Plant Reproduction Laboratories staff. The painted background is the work of Museum staff artists. The preliminary sketches were made by Mr. Charles A. Corwin, and are

*Very good - 100% in the field  
1937-38*

being carried out and elaborated on a large scale by Mr. Arthur G. Rueckert.

The second ecological group under way, well advanced with the help of WPA workers, is one representing a spring woodland scene such as was once typical of the Chicago area, and may still be found in a few undisturbed spots beyond the limits of the city.

A third exhibition project, carried on during the year with the aid of skilled WPA workers under the supervision of Mr. John R. Millar, of the Department staff (until his transfer late in the year to the Department of the N. W. Harris Public School Extension), is also not quite completed. It is a reproduction of a nipa palm for Hall 25. The preserved botanical material and data for this was obtained in the Georgetown Botanic Gardens by the Stanley Field Expedition to British Guiana (1922).

Several other exhibits to which the labor of WPA workers under the supervision of Mr. Millar has contributed in greater or less degree are under way. One of them is a small-scale diorama of a cassava starch mill for the food plant exhibits in Hall 25. Another is a reproduction of a clump of epiphytic bee-swarm orchid, a species of *Cyrtopodium*, for the Hall of Plant Life (Hall 29).

The case devoted to the rose family, to which belong most of the well-known fruits and berries of the temperate zone, received some special attention with the preparation of further material. A branch of sour cherry, reproduced by Mr. Milton Copulos of the Laboratories staff, is the latest addition.

The exhibition case devoted to the royal palm and its allies was reinstalled early in the year, with the addition of new material and photographs. Several transparencies of scenes pertaining to food plants were prepared for the windows of Hall 25.

In Charles F. Millsbaugh Hall of North American Woods (Hall 26), two new installations were made, namely, Idaho white pine, material of which was presented several years ago by the Panhandle Lumber Company, Boise, Idaho; and sycamore, for which the Keith Lumber Company, Chicago, and the Eastman-Gardiner Hardwood Company, Laurel, Mississippi, gave material in 1931 and 1935. Photographic enlargements were also added to the exhibits of incense and western red cedar. Of the eighty-four species of North American trees selected for display in this hall, on the basis of the commercial value of their wood, there now remain to be added only the three western species: Sitka spruce, noble fir, and red alder.





#### IGNEOUS INTRUSIONS

Model showing types of injections into sedimentary strata

Clarence Buckingham Hall (Hall 35)

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In the Hall of Foreign Woods (Hall 27), there was installed one case of woods of Mexico, consisting of twelve planks representative of some of the commercial species of southern Mexico which are now imported into the United States. These were presented in 1935 by Mr. Bruce Hoover, of Mexico City.

## DEPARTMENT OF GEOLOGY

### EXPEDITIONS AND RESEARCH

An expedition to western Colorado, under the leadership of Assistant Curator Bryan Patterson, spent three months collecting vertebrate fossils. Mr. James H. Quinn, of the paleontology laboratories staff, accompanied Mr. Patterson. Curator Elmer S. Riggs joined the expedition for a part of the season, and two volunteers, Mr. Clayton A. Quinn, of Ainsworth, Nebraska, and Mr. Theodore Burdish, of Hazelcrest, Illinois, contributed valuable services. Many specimens were collected from the Upper Paleocene beds of Plateau Valley, and others were collected from Lower Eocene formations. The more important specimens include a mountable skeleton of a new genus of tusked amblypod (discovered by Mr. Alfred A. Look, of Grand Junction, Colorado), the anterior half of the skeleton of a second new amblypod, a skull and other parts of a new untathere, the skull and jaws of a Paleocene species of *Phenacodus*, the skull and jaws of a large *Coryphodon*, and good specimens of crocodiles.

The expedition made a collection also of fossil plants and gastropods from the Upper Cretaceous and Paleocene formations. It is expected that this collection of fossil plants will disclose specimens new to science, and that it will be an important aid in arriving at a better understanding of the stratigraphy of the area in which they were collected. A study of this collection should reveal much about the vegetation contemporaneous with the Paleocene vertebrates collected by the expedition, and provide a clearer picture of the surroundings under which these animals lived.

The success enjoyed by the expedition was in no small measure due to the friendliness and generous co-operation of residents in the region. Among these, Messrs. Edwin B. Faber and Alfred A. Look, of Grand Junction; Messrs. J. Edwin and Douglas Harris, and Miss Julia Harris, of Mesa; Mr. Hatton Edgerly, of De Beque; Mr. Charles Deardorff and Miss Hazel Deardorff, of Silt; and Messrs. William B. Hilton and G. Bradley Harris, of Rifle, should be especially



mentioned. It is safe to say that the results of the expedition would have fallen far short of what was actually accomplished had it not been for the aid given by these and other persons in the donation of specimens and in the ready granting of facilities for working.

Curator Sharat K. Roy spent five weeks during July and August in northwestern Colorado collecting specimens needed for the installation of an enlarged collection illustrating structural and physical geology in Clarence Buckingham Hall (Hall 35). Besides collecting examples of rock folding, which was the principal object of the expedition, other specimens needed for later stages of this installation, as well as a number of fine zeolite minerals, were obtained. Much of the success of the expedition was due to the active co-operation of Dr. P. G. Worcester, of the University of Colorado, who has carried on field work in the region for many years.

Mr. Roy, working under a grant-in-aid from the Carnegie Corporation, New York, spent two months visiting eastern museums and universities. The purposes of the trip were: (1) Comparative studies of Ordovician arctic fossils collected by Mr. Roy during the Rawson-MacMillan Subarctic Expedition (1927-28) with fossils of the same age from North America; (2) consultations with specialists in Ordovician stratigraphy and paleontology; (3) study of methods of classification and exhibition of igneous rocks; (4) study of methods of exhibition of invertebrate paleontology and physical geology; (5) study of general museum technique relating to geology. The studies and comparisons of Ordovician fossils were undertaken to increase the value of Mr. Roy's monograph on the geology and paleontology of Baffin Land, in which he is incorporating the results of his work as a member of the Rawson-MacMillan Expedition. The other studies were undertaken in connection with revisions of exhibited collections now under way or contemplated. During this trip Mr. Roy visited the following institutions, in all of which he received the most hearty co-operation: the American Museum of Natural History, New York; Columbia University, New York; Yale University, New Haven, Connecticut; United States National Museum, Washington, D. C.; Rutgers University, New Brunswick, New Jersey; Princeton University, New Jersey; and the Peabody Museums at Harvard University, Cambridge, Massachusetts, and at Yale. All the studies and observations were successfully and profitably carried out.

Many of the fossil mammals from the Marshall Field Paleontological Expeditions to South America (1922-25 and 1926-27) and from the more recent expeditions to Colorado, are new species and in

some cases new genera, or are from species inadequately studied in the past. Concurrently with the preparation of these specimens, which has been the principal task of the vertebrate paleontologists for several years, Curator Riggs and Assistant Curator Patterson have continued studies of them. The results of such studies as have been completed appear in four papers published during the year. Three of these—*A Mounted Skeleton of Homaladotherium*, by Mr. Riggs; *A New Genus Barylambda for Titanoides Faberi, Paleocene Amblypod*, by Mr. Patterson; and *A Soricid and Two Erinaceids from the White River Oligocene*, by Mr. Patterson in collaboration with Mr. Paul O. McGrew, of the University of Chicago—were published by the Museum. One, *A New Pleistocene Bog Deposit and Its Fauna*, by Mr. Riggs, was published by the Illinois State Academy of Science. A fifth paper, also by Mr. Riggs, *The Stratigraphy of the Catamarcan Pliocene Deposits*, is to be published by the Second Argentine Congress of Natural Scientists, at Mendoza, Argentina.

Curator Roy published a paper "Additional Notes on Living Bacteria in Meteorites," in *Popular Astronomy*, and is now incorporating the results of his studies in eastern museums in his monograph on the geology and paleontology of Baffin Land, which he expects to complete in 1938.

Dr. Albert J. Walcott, working under a special arrangement, made a detailed study of all minerals in the Museum showing asterism. He incorporated the results in a paper, published by the Museum, on the cause of this phenomenon in gem minerals.

#### ACCESSIONS—GEOLOGY

The number of accessions recorded during the year was sixty-nine. The number of specimens included in these accessions was 1,259. Of these, 692 were gifts, 117 were obtained by exchange, 449 came from expeditions or were collected by members of the staff, and one was purchased. This represents an increase of nearly one-third in the number of accessions, and of nearly two-thirds in the number of specimens received, as compared with the preceding year. There was likewise a noteworthy improvement in the quality of the specimens received by gift.

A most attractive addition to the gem collection is a large star sapphire, mounted in a white gold ring, presented by Mrs. William J. Chalmers, Chicago.

A group of 248 small opals of exceptional quality, the gift of Mr. Jerome Von Rappaport, Chicago, is another valued addition to the

gem collection. It illustrates the beautiful effects that can be obtained by a massed assembly of small but brilliant stones.

A gift from Mr. H. V. Schiefer, Cleveland Heights, Ohio, added nine specimens of cabochon-cut chalcedony of fine quality to the display of semi-precious stones. Mr. August Rassweiler, Chicago, presented a cabochon-cut green aventurine.

Mr. Haruyoshi Tokuno, of Fushun, Manchukuo, presented a figure of the Daruma Buddha, carved by a native artist from jet mined in Manchukuo.

The most important addition to the meteorite collection was a gift, by the Estate of William N. Rumely, of Chicago and La Porte, Indiana, of a meteorite weighing thirty-two pounds, found years ago near La Porte.

Other gifts for addition to the meteorite collection include a specimen of the Lake Labyrinth (Australia) meteorite, from Dr. H. H. Nininger, of Denver, Colorado; and an individual of the Pultusk (Poland) meteorite from the Industrial and Agricultural Museum of Warsaw, Poland. The collection was further enlarged by the addition of fourteen meteorites obtained by exchange.

A collection of twenty-three industrial minerals of Poland, presented by the Industrial and Agricultural Museum in Warsaw, is an important addition to the economic exhibits. It includes a full series of the minerals of the salt and potash mines of that country.

A gift from Mr. Tokumatsu Ito of the Museum staff, of twenty specimens of coals and their products, as well as amber and other industrial minerals of Manchukuo, is another valued addition to the economic collections.

A specimen of salt and a salt stalactite from Palestine, presented by Mr. Morris G. Morrison, Evanston, Illinois, is of interest as it comes from the region where, according to the Biblical account, Lot's wife was changed to a pillar of salt.

Two polished specimens of bird's-eye quartz, a variety new to the collections, were presented by Mr. J. R. Wharton, Roseburg, Oregon. Mr. Frank Von Drasek, Cicero, Illinois, added, to his gifts of former years, forty-two specimens of minerals and ores from New Mexico and Arkansas. Mr. J. W. Jennings, Eureka Springs, Arkansas, added six minerals from Arkansas to his earlier gifts. A collection of 106 minerals was presented by Miss Marguerite Simmons, Chicago.

An unusual occurrence of concretions is represented by a gift of eighteen specimens from Mr. Dan P. Mumbrue, Helena, Montana.



The value of these is enhanced by the fact that a full description of their mode of occurrence accompanied them. Other concretions, each with some aspect of special interest, were presented by Mr. and Mrs. Alexander Darragh, Chicago; Mr. A. F. Setterle, Cicero, Illinois; Mrs. Dorothy K. Young, South Haven, Michigan; Mr. Elmer L. Rembold, Chicago; Mr. W. E. Matthews, West Terre Haute, Indiana; Mr. Lloyd Cannon, Olmsted, Illinois; and Mr. G. B. Calhoun, Chicago. All of these differ in several ways from those now in the collections.

An attractive group of iridescent fossil shells imbedded in limestone, presented by Mr. Ray C. Gruhlke, of Olympia, Washington, was especially welcomed because it came at a time when it was needed to complete an installation. Another important addition to the collections was a gift from Mr. Anthony Mazur, Chicago, of geological specimens and fossils from Poland.

Gifts to the economic collection include copper ores from Mr. Frank P. Reagan, Chicago; barite from the firm of Levin and Rubin, Chicago; and four specimens of gold ore containing free gold from Mr. A. M. Bilsky, Toronto, Canada. The Standard Oil Company (Indiana), Chicago, replaced sixteen deteriorated specimens in the petroleum exhibit.

Gifts of vertebrate fossils were numerous and important. The unusual number was due largely to gifts from Colorado residents who assisted the 1937 Paleontological Expedition to Colorado. Important among these are two fossil skeletons and the jaw of a fossil lizard, presented by Mr. Alfred A. Look, of Grand Junction. The skeletons are of a new species, as yet unnamed, of amblypod—an early mammal of medium size. Another important specimen, presented by Mr. Edwin B. Faber, also of Grand Junction, is the lower jaw of an early fossil mammal and the foot bones of another. Other gifts of fossil vertebrates from Colorado friends of the expedition came from Mr. Hatton Edgerly, De Beque; Miss Hazel Dear-dorff, Silt; Mr. Myron A. Kaempfer, Denver, and Messrs. William B. and Oliver Hilton, and G. Bradley Harris, of Rifle. Messrs. Harris and Hilton also presented a collection of fossil leaves from the Paleocene of Colorado, to which Miss Julia Harris added a specimen from the Eocene of Colorado. Mr. Gail Orr, of Winterset, Iowa, also contributed material to the collections of this expedition.

Mr. James H. Quinn, Assistant in Paleontology, presented five vertebrate fossils from the Tertiary of Nebraska, collected before he joined the Museum staff. From Mr. Paul O. McGrew, of the Uni-

versity of Chicago, the Museum received the jaw of a three-toed horse and the jaw of an Oligocene opossum.

Mr. Edwin C. Galbreath, of Ashmore, Illinois, added in 1937 to the large collection of Illinois Pleistocene fossils he presented in 1936, fossil bones of musk-ox, giant beaver, and ground sloth. Other gifts of vertebrate fossils came from Mr. Homer Mooney, Carson City, Nevada, and Mr. William Callahan, Aurora, Kansas.

The American Museum of Natural History, New York, presented a cast of the mandible and palate of *Dryopithecus*. From the same institution there came, by exchange, a cast of the lower jaw of a holotype of *Griphodon*; a cast of the skeleton of the large fossil bird *Diatryma*, and thirty-one fossil plants.

Fossil bones of horse, bison, rhinoceros and elephant, the gift of Mr. Michael A. Weymarn, of Harbin, Manchukuo, are of special interest because fossils from that distant part of the world are needed for comparison with specimens from regions previously represented in the Museum collections.

Skulls of four Oligocene mammals, and two large and rare Oligocene shells, were added to the collections by an exchange with Mr. George F. Sternberg, of Hays, Kansas.

Specimens of fossil leaves and bark were presented by Mr. G. W. Wharton, Roseburg, Oregon; Mr. R. H. Stewart, Ironton, Ohio; and Mr. E. M. Cole, Audubon, Iowa.

Specimens of fossil wood, presented by Mr. L. B. Roberts, of Batesville, Arkansas, are of interest due to the fact that the wood has changed to oxide of iron but some of the woody structure has been preserved. Mr. J. Atkinson Conrow, Baltimore, Maryland, presented twelve fossil shells; Mr. A. C. Helwig, Keokuk, Iowa, a fossil coral; and Mr. James Gerritson, Kankakee, Illinois, two cephalopods.

By exchange with Mr. E. Mitchell Gunnell, Galesburg, Illinois, and Mr. Martin Ehrmann, New York, seventeen specimens of exceptionally choice minerals have been added to the mineral collection. Seventeen specimens of scenery agate, obtained by exchange with Mr. Oscar U. Zerk, of Chicago, have greatly improved the agate collection. Another specimen of this mineral was secured by exchange with Mr. Earl L. Calvert, San Gabriel, California.

Although there were no expeditions especially for the collection of minerals, twenty-two mineral specimens were collected by the Department's expeditions organized for other purposes, and seven more came from expeditions of other Departments of the Museum.

## CATALOGUING, INVENTORYING AND LABELING—GEOLOGY

There were 1,567 new entries in the Department catalogues, which now comprise twenty-eight volumes. Adding these to previous entries, the total becomes 197,178. All specimens received during the year have been catalogued. During the checking of the collections, currently in progress, a few unrecorded specimens have been found and they have also been entered in the catalogues.

Copy for 1,609 specimen labels was prepared and sent to the Division of Printing, and all labels received from the Division were installed in the cases. There were 196 labeled prints of photographs added to the Department albums, which now contain 8,724 prints. One hundred twenty-one United States Geological Survey maps were received, filed and labeled, bringing the number of these maps now available to 4,519.

The classified card catalogue of photographs, and the card index of meteorites, have been kept up to date. Work on the card catalogue of minerals has continued, and this catalogue is now nearly complete. Its preparation has involved much labor, as each mineral is inspected before entry, and checked against previous records. All doubtful specimens are re-identified.

In the vertebrate paleontology section attention has been given to building up detailed, classified catalogues of the collections. The catalogue of the books and papers which constitute the working library on this subject has been brought to date. The bibliography of South American literature on fossil vertebrates, begun by Mr. Patterson as an individual undertaking, has received substantial additions.

The workers assigned by the Works Progress Administration to this Department have made the preparation of these detailed records possible. Collections secured during earlier years of the Museum's activity and entered in various catalogues have been brought together, many of them have been renumbered, and they have been re-entered compactly in one volume, which includes most fossil fishes of all periods, and a large section of the fossil reptiles. The records of the North American and European vertebrate fossil collections have been revised as to nomenclature and geological horizon. For the classified catalogue of vertebrates, 637 specimen cards have been typed. Duplicate cards are being prepared so that the files will be readily accessible to all members of the Department.

Cards typed and filed for the classified catalogues include 4,124 for minerals; 1,301 for meteorites; 3,790 for vertebrate fossils and



their bibliography, and forty-eight for photographs. One thousand sixty-five vertebrate fossils were numbered, and numbers which had faded were repainted on 12,940 minerals. Typewritten labels were prepared for 3,095 minerals and 5,010 invertebrate fossils in the study collection.

#### INSTALLATIONS AND REARRANGEMENTS—GEOLOGY

The appearance of Hall 34 has been greatly improved by the reinstallation of the meteorite collection which fills the west half of the hall. The collection previously had been housed in an antiquated type of case in which attractive installation was impossible. During 1937, the collection, except for seven large meteorites in individual cases, was withdrawn from exhibition for reclassification, and the old unsuitable cases were discarded. The collection was then reorganized, relabeled, and enlarged by the addition of many specimens formerly in storage, as well as sixteen meteorites acquired during the year. It now occupies fourteen new cases of the standard type used in the Department and seven smaller square cases.

Shelves are not used in the new cases. Specimens are attached to the back by invisible fastenings or, where necessary, placed on neat individual supports. In the new arrangement the meteorites are divided into their three principal classes and arranged alphabetically under each class. Seven meteorites with deteriorated surfaces were re-etched and repolished, and the large iron specimen from Gladstone, Australia, was treated to cure scaling.

Two specimens were added to the amber collection, and there were sixteen additions to the exhibited mineral collection.

In Clarence Buckingham Hall (Hall 35) the principal work has been the preparation of new exhibits illustrating structural and dynamic geology which, when complete, will occupy the east half of the hall. In these exhibits specimens formerly displayed are augmented by material from storage, as well as specimens collected especially for this purpose during the past two years.

Collections illustrating metamorphism, folds, faults, joints, veins and dikes were prepared and installed in two cases. Seven such cases are now complete, and nine remain to be prepared for the collection devoted to physical geology.

Cleavage specimens, which occupied one-quarter of the case illustrating the interior structure and composition of the earth, have been replaced by more suitable material.



SKELETON OF A LARGE PALEOCENE MAMMAL

*Barylambda feberi* Patterson

Collected by the Field Museum Paleontological Expedition of 1933. Plateau Valley Beds, Debeque, Colorado

Prepared and mounted by James H. Quinn

Ernest R. Graham Hall (Hall 38)

*Complete skeleton*

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The model of the Natural Bridge of Virginia was reinstalled in a new case and placed in a more prominent position.

Press of other work has interfered with the installation of the rock collection in the west half of Hall 35. Two cases of sandstones and conglomerates have been added during the year, leaving five cases yet to be installed.

In Hall 36 (Economic Geology), deteriorated specimens of petroleum products were replaced, and several thin transparent sections of coal were installed in a window where the light shines through them.

Installation in Frederick J. V. Skiff Hall (Hall 37) was limited to minor readjustments and the addition of a few new specimens.

A skeleton of the fossil ground sloth *Hapalops*, from Bolivia, was added to the vertebrate collections in Ernest R. Graham Hall (Hall 38). The work of preparation and articulation of the bones was performed by Assistant Phil C. Orr. Although only one skeleton was placed on exhibition, preparation of the fossils collected by the Marshall Field Paleontological Expeditions to South America, and the more recent expeditions to Colorado, has proceeded steadily during the year. Two complete skeletons and 102 partial and fragmentary specimens for the exhibition and study collections were prepared.

As was the case last year, much attention was given to rearrangement and classification of the study collections on the third floor to make them more readily available. The reserve mineral and economic collections are now in fair shape. The reserve collections of physical geology specimens and rocks have been partially reclassified, but final arrangement must be postponed since many specimens from these collections now are being used for reinstallation of exhibits.

Work has proceeded steadily on the reorganization of the invertebrate study collection. During the year 45,142 fossils in this collection have been cleaned, checked and arranged, and 5,010 labels have been written for them. It will require several more years of work to complete this reorganization.

The study and reserve collections of vertebrate fossils in Room 101 on the third floor have been rearranged. Many new labels have been added, and a new cabinet of seventy-four trays has been installed for storage of fossil fishes and the new collection of Paleocene and Lower Eocene mammals. The entire collection is being rearranged according to geologic horizons and genera.

The permanent value of improvements made in 1937 and several preceding years is becoming daily more evident. Even now, although

the work is far from complete, a few minutes spent in reference to the new classified catalogues in preparation often obviates hours of search by members of the staff. The more orderly arrangement of the reserve and study collections has progressed far enough to greatly facilitate the work of the staff, and has made possible greatly improved service by the Museum to students and specialists. A more important although inconspicuous benefit has been the preservation of the identification of thousands of specimens by replacing fading identification numbers with permanent ones. This is another situation in which the WPA workers have been of great value.

## DEPARTMENT OF ZOOLOGY

### EXPEDITIONS AND RESEARCH

Five zoological expeditions were in the field during the year. Four of them, principally supported by contributions from President Stanley Field, were (1) an expedition to British Guiana and Brazil, conducted by Mr. Emmet R. Blake, Assistant Curator of Birds; (2) an expedition to the Pribilof Islands, Alaska, by Staff Taxidermist C. J. Albrecht; (3) an expedition to the southwestern United States, conducted by Mr. Karl P. Schmidt, Curator of Reptiles; and (4) an expedition to the coast of Maine for a group of North Atlantic fishes, by Mr. Alfred C. Weed, Curator of Fishes, and Staff Taxidermist Leon L. Pray. The fifth expedition, to southern Indo-China, was personally financed and conducted by Chief Curator Wilfred H. Osgood.

Assistant Curator Blake left for British Guiana late in January. He collected in a number of localities along the coast, and on the Berbice and Essequibo rivers. Among the 844 birds which he sent back were specimens for habitat groups of hoatzins and of anis. Accessory materials which accompanied the hoatzins are of particularly fine quality, and include the strange giant arum-like plant that forms the principal food of this "living fossil."

From British Guiana Mr. Blake proceeded, via Rio de Janeiro, to Matto Grosso. There he made collections of specimens and accessories for a habitat group of rheas or South American ostriches. A large number of study specimens was also obtained. He next collected in the state of São Paulo, a region that is very poorly represented in the collections of all American museums. Field work was terminated in December.

Taxidermist Albrecht spent June, July, and August on the Pribilof Islands, Alaska, where he was engaged in obtaining material

for a habitat group of fur-seals. Through the cordial co-operation of United States Commissioner Frank T. Bell, he was enabled to obtain transportation to and from the islands on government vessels, and to enjoy many privileges necessary to the success of the work. He received especially valuable and much appreciated assistance from Superintendent Harry J. Christoffers, as well as from Mr. Harry May, representative on the islands of the Fouke Fur Company, St. Louis, Missouri. Ample material was obtained for the preparation of a large group showing seals of all ages, and illustrating many of their unusually interesting habits.

Curator Schmidt, with several associates, carried on work in the southwestern United States in Texas, Arizona, and California. The principal object was specimens to fill gaps in the exhibition collections of North American reptiles, but much additional material was obtained. Two separate trips were made, with a slight interruption for return to the Museum in midsummer. On the first, Curator Schmidt was accompanied by Staff Taxidermist Leon L. Walters, and Dr. Alfred E. Emerson of the University of Chicago. They left by automobile on April 1, making a stop for collecting in the Chisos Mountains, in the area proposed for "Big Bend National Park," southwestern Texas. Thence they went via the Chiricahua Mountains to Tucson, Arizona, with visits to the Santa Catalina Mountains and to the Santa Ritas. At Yuma, Arizona, a two weeks' stop was especially productive of satisfactory results in the accumulation of molds of specimens and color studies for Mr. Walters' use in making exhibition models. Notable forms obtained include the desert iguana, the chuckawalla, the fringe-toed sand lizard, the desert gecko, and, among snakes, the remarkable "sidewinder," a rattlesnake which progresses with a helical rolling motion in loose sand. Mr. Walters found opportunity to experiment with a new technique he has developed for celluloid infiltration of patches of ground to obtain natural bases for exhibited models of specimens.

While the principal work of the expedition was concluded at Yuma, the party continued westward to San Diego, California, where many additions to its collections were made through the generosity and co-operation of Mr. L. M. Klauber, of the San Diego Natural History Society, Mr. C. B. Perkins, of the San Diego Zoological Society, and Dr. Walter Mosauer and Dr. R. C. Cowles, both of the University of California at Los Angeles.

After returning to Chicago in May, Curator Schmidt again left for the Southwest in August to spend three weeks, accompanied by



Assistant Curator D. Dwight Davis, Mr. Bertil Hartelius, of Michigan State University, and Mr. Schmidt's two sons, John and Robert. This party was joined by Mr. Walter L. Necker, of the Chicago Academy of Sciences, also interested in reptiles, and by Mr. F. E. Winters, of Hinsdale, Illinois, volunteer photographer. By informal agreement the party joined forces in the herpetological exploration of this region with the United States National Park Service, for which Mr. Tarleton F. Smith had been collecting in the summer seasons of 1936 and 1937. Interest in this zoologically remarkable area had been stimulated at Field Museum by the receipt of specimens for identification from the Park Service in 1936.

Curator Weed and Taxidermist Pray spent about six weeks on the coast of Maine, collecting materials for a group to represent the fishes of the colder waters of the northern Atlantic coast of the United States.

Through the courtesy of the Zoology Department of the University of Maine, and Professor Joseph M. Murray, Director of the University of Maine Marine Station at Lamoine, the expedition secured excellent accommodations at the station. This station is located at the head of Frenchman's Bay, a few miles from Bar Harbor, and within easy reach of many excellent collecting grounds. Plant and animal life is abundant and varied, and is representative of conditions prevailing over a large part of the north Atlantic region of North America.

The expedition received the fullest possible co-operation of the staff and students at the station. Much information was secured that could hardly have been obtained anywhere else. Specimens taken by students on various collecting trips, and through activities of the station, were freely offered and gratefully received. In addition to the help given by those officially connected with the station, Dr. Carlos E. Cummings, Director of the Buffalo Museum of Science, spent much time assisting Mr. Pray in locating places where particular information could be secured.

The fishes of Frenchman's Bay, and regions farther north and east, live close to rocks that are almost completely covered with a bewildering mass of brilliantly colored plants and animals. The general effect of the background so formed is almost like that of an oriental rug. It is planned to reproduce this effect as far as possible in a group to be installed in Hall O. Excellent specimens of some of the commoner fishes of the region were secured and will be shown in their natural positions in relation to the rocky walls.

Chief Curator Osgood left for the Far East early in January, and spent about two months in French Indo-China, mainly in southern Annam. Although traveling alone, he was so courteously received by French officials and so much assisted by native collectors formerly employed by the French naturalists, MM. Jean Delacour and Pierre Jabouille, that he was able in a short time to gather a varied collection numbering some 500 specimens. Most important was material for two large habitat groups, one of gibbons and one of green pea fowl. For much general assistance to Dr. Osgood, Field Museum is especially indebted to M. Auge, Résident Maire at Dalat, Annam, to M. Kieffer of Gougah Falls, and to missionaries of the American Missionary Alliance, especially Mr. Herbert Jackson and Mr. Gordon Smith.

Owing to field activities of staff members, as well as to the fact that various manuscripts of considerable size are still in various stages of preparation, the number of zoological publications issued by the Museum during the year is relatively small. Included are: *Catalogue of Birds of the Americas*, Part X (Icteridae), by Associate Curator Charles E. Hellmayr; *Notes on Sea-Basses of the Genus Centropistes*, by Curator Alfred C. Weed; *American Bats of the Subfamily Emballonurinae*, by Curator Colin C. Sanborn; *Notes on Snakes from the Yucatan Peninsula*, by E. Wyllys Andrews; *The History of Elaps collaris Schlegel, 1837-1937*, by Curator Karl P. Schmidt; and *Variable Dentition in a Chinese Insectivore*, by Chief Curator Wilfred H. Osgood. Publications by staff members which appeared under other than Field Museum auspices include the following: "Notes on Bahama Bats," by G. M. Allen and Colin C. Sanborn, *Journal of Mammalogy*, Vol. 18, pp. 226-228; "The Season, Chicago Region," by Rudyerd Boulton and Frank A. Pitelka, *Bird Lore*, Nos. 3, 4, 5, 6; "Snakes Alive and How They Live" (review), by Karl P. Schmidt, *Copeia*, 1937, pp. 143-144, and *Science*, Vol. 86, p. 483; and *Ecological Animal Geography*, edited and translated by Karl P. Schmidt and W. C. Allee, published by John Wiley and Sons, New York.

Curator Sanborn continued research on the classification of bats, and made considerable progress on a bibliographic index of literature and on preliminary work for the revision of six families of bats. During the year he visited the Museum of Zoology of the University of Michigan, Ann Arbor, the United States National Museum, Washington, D.C., the American Museum of Natural History, New York, and the Museum of Comparative Zoology, Cambridge,

Massachusetts. The collection of bats in each of these museums was examined, and about 600 specimens were studied and measured.

Curator Boulton, of the Division of Birds, continued studies of African birds from time to time, and in December began several weeks of continuous work on the birds of Angola at the American Museum of Natural History, in New York, and the Carnegie Museum, in Pittsburgh.

Associate Curator Hellmayr, working in Vienna, Paris, and London, completed his studies of perching birds for Part XI of the *Catalogue of Birds of the Americas*, which will be devoted to the sparrows and finches. For Part I, Nos. 1 and 2, further studies of game and water birds were made. Research Associate H. B. Conover collaborated with Dr. Hellmayr in studies of game birds.

Research and other activities suffered a setback due to the sudden death of Mr. Leslie Wheeler, Trustee of the Museum, and Research Associate in the Division of Birds. His passing was a serious loss to the entire Department of Zoology, and to the Museum as a whole. He had endeared himself to the entire staff, and by daily attendance had become thoroughly engrossed in the plans and purposes of the institution. His substantial material support was matched in value by the personal relations so warmly established by him. As a result of his activities, Field Museum's collections have been enriched by more than 614 specimens of birds of prey, and since his death specimens that he had ordered from collectors in remote parts of the world have continued to arrive.

Research in the Division of Reptiles was concentrated on Central American collections, on material from southeastern Asia secured through Dr. Henry Field, Curator of Physical Anthropology, and on recently collected material from the Trans-Pecos region, Texas. Studies on the amphibians and reptiles of the Chicago region also were continued.

Curator Weed finished studies on sea-basses of the genus *Centropristes*. He also identified material obtained by Dr. Henry Field in the Near East, and carried on investigations of sculpins collected by himself in the North Atlantic. In addition, he made certain studies of burrowing eels in collaboration with Mr. Stewart Springer, of the Bass Biological Laboratory, Englewood, Florida.

Assistant Curator Davis made various anatomical studies, including a detailed dissection of the rare treeshrew *Dendrogale*. Other subjects were the structure of the skull in burrowing snakes, and the digestive system in pollen-feeding bats.



## ACCESSIONS—ZOOLOGY

The total number of specimens added to the collections by formal accession is 16,402, including 5,283 insects. This is about 40 per cent more than in 1936. They are divided by zoological groups as follows: mammals 1,396; birds and birds' eggs 2,676; amphibians and reptiles 3,959; fishes 2,625; insects 5,283; lower invertebrates 463. Included are 585 vertebrate skeletons. Of the total, 6,007 were obtained from Museum expeditions, 7,173 by gift, 1,745 by exchange, and 1,477 by purchase.

Among the notable gifts of mammals are thirty-eight specimens from Iraq, presented by Dr. Henry Field, of the Department of Anthropology, augmenting his collections from that country in past years. Curator Karl P. Schmidt gave fifty-four small mammals from Illinois and Wisconsin, collected by his brother, the late F. J. W. Schmidt. A collection of twenty-two bats from the Bahamas was given by Dr. J. F. W. Pearson, of the University of Miami, Coral Gables, Florida. Through Professor Julian S. Huxley, five hedgehogs were donated by the Zoological Society of London. The Colorado Museum of Natural History, Denver, presented six pikas needed for exhibition and skeletons. Mr. A. J. Bujak, of Michigan State College, East Lansing, secured six much needed skeletons of beaver and one otter for the Museum, and Mrs. L. H. Ryckman, of Kirkland, Washington, sent in a skeleton of a mountain beaver. The Chicago Zoological Society, at Brookfield, Illinois, presented thirty-two mammals, and the Lincoln Park Zoo, Chicago, two.

Birds numbering 589 were received as gifts from a large number of individuals, indicating a continuation of the co-operation between local naturalists and the Museum. The most important donor was the Chicago Zoological Society, which presented 130 rare birds in the flesh, most of which were used as osteological material, but some for other special studies. The Polish-American Chamber of Commerce of Warsaw presented five specimens, a nest, and accessories, for a white stork habitat group to be installed in the Hall of Birds (Hall 20). Mr. Alastair Gordon Cumming, of Forres, Scotland, presented sixteen specimens of red grouse and a peregrine falcon for another habitat group. Mr. J. Andrews King, of Lake Forest, Illinois, presented ten specimens collected by him in Chile. Mr. Al Pflueger, Miami, Florida, gave eleven sea birds from the Bahamas; Mr. Melvin Traylor, Chicago, donated eighty-nine specimens collected by him in Yucatan; and Mr. Leon Mandel, Chicago, presented forty-six specimens collected in the West Indies.

Gifts of amphibians and reptiles reached the rather large total of 1,455. Most notable are 180 specimens collected in Yucatan by Mr. E. Wyllys Andrews, of Chicago; 640 specimens received from the Texas College of Arts and Industries, at Kingsville, through the interest of Professor J. C. Cross; and 223 specimens from western Texas, received from various divisions of the United States National Park Service. The Chicago Zoological Society and the Lincoln Park Zoo contributed numerous important specimens.

Nineteen institutions and individuals presented specimens of fishes aggregating 1,429. Through the kindness of Messrs. Spencer W. Stewart and Robert J. Sykes, of New York, with the co-operation of the American Museum of Natural History, Field Museum secured the skin of a twenty-five-foot whale shark that is now being prepared for exhibition. In order that preparation of this immense fish for exhibition might be done in the best manner possible, Mr. Stewart gave the Museum twenty-one photographs of this and other specimens. To these pictures, Captain John D. Craig, Chicago, added two clips of motion pictures of a whale shark that he saw in Mexican waters. These were found very valuable in showing some details of structure that could not be determined otherwise. The John G. Shedd Aquarium, Chicago, gave many selected specimens from Fiji, Hawaii, the Bahama Islands and other localities. Among them were an excellent specimen of the carpet shark of Australia, desired for exhibition, and a large jewfish that had lived six years in the Aquarium. The skeleton of the latter was preserved for possible use in the osteology exhibits. Many of the other specimens were particularly desired to fill gaps in the study series. Dr. Henry Field gave three very desirable lots of fishes, including specimens from the Dialah River, near Bagdad, Iraq; a small collection from Leicestershire, England; and various marine fishes from Scotland and the North Sea. Mr. Leon Mandel gave some very interesting fishes from the West Indies, including two specimens of wahoo, a valuable game and food fish related to the king mackerels and the tunas. One of these is being mounted for exhibition, and the skeleton of the other is being prepared for possible later inclusion in the osteological exhibits. The Bass Biological Laboratory, Englewood, Florida, gave specimens of snake eels and worm eels which Mr. Stewart Springer of that institution is studying in collaboration with Curator Weed. The Stacja Morska (Marine Station), Hel, Poland, presented a series of fishes collected in the Baltic Sea by Professor Kazimierz Demel. These were especially selected for comparison



CHINESE TAKIN

Taxidermy by Julius Friesser. Plant accessories by Frank Lett  
Background by Charles A. Corwin and Arthur G. Rueckert  
William V. Kelley Hall (Hall 17)



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with fishes collected in Labrador, Greenland and Baffin Land by Curator Weed. The Department of Pharmacology of the University of Chicago presented the head of a ragfish, a strange creature found in deep water in the northern Pacific. This fish is very rarely seen at the surface, and very few specimens of it have ever come to museums. The Booth Fisheries Company, through its Boston office, furnished excellent specimens of rosefish that were urgently needed for a group of fishes of the North Atlantic, planned for Hall O. Professor H. W. Norris, of Grinnell College, in Iowa, has continued his interest in the Museum. He gave a specimen of the strange frilled shark, found in deep water off the coast of Japan. This will make it possible to prepare a life-size model of this fish for exhibition. This shark grows to a length of eight feet or more. It has an eel-shaped body, a mouth at the front of the head (instead of underneath as in most sharks), and gill membranes that form a ruffled fringe behind the head. Mr. Robert H. Becker, of the *Chicago Tribune* staff, sent in some interesting specimens caught by fishermen in the Great Lakes region.

A mounted specimen of blue marlin ("swordfish") of record size was presented by Mr. Michael Lerner, of New York. This fish, which weighed 537 pounds, was caught at Bimini, Bahama Islands, by Mr. Lerner. It was excellently prepared and will be a welcome addition to the exhibits that are to be installed in Hall O.

Accessions in the Division of Anatomy and Osteology reached a total of 585, a large part of which represents contributions from the Chicago Zoological Society.

One-third of the insect acquisitions consisted of three gifts from Dr. Henry Field, of Chicago, who generously presented 1,750 desirable specimens from Iran. Mr. Bertil Hartelius, of Homewood, Illinois, gave 335 insects from the Southwest, mainly Texas. From Mr. Edward J. Brundage, of Washington, Connecticut, there were received as a gift 447 specimens, mostly from Barro Colorado Island, Canal Zone. A gift from Mr. Gordon Grant, of Los Angeles, California, consisted of 389 specimens from southern California.

Material from Museum expeditions was more extensive than for several years past, well diversified, and especially calculated to fill definite needs. The expedition of Assistant Curator Blake to British Guiana and Brazil provided the required material for several habitat groups of birds, as well as general collections which, while principally of birds, included also mammals, reptiles, and fishes. Accessions from this expedition total some 2,000 specimens from Guiana, and

about 1,100 from Brazil. Similarly, Chief Curator Osgood made collections in French Indo-China, principally of mammals, but including various other vertebrates, and totaling about 500 specimens in all. Noteworthy are a series of gibbons for a habitat group, and skins, nests, and eggs of the green pea fowl for another.

The expeditions to the southwestern United States, conducted by Curator Schmidt and associates, collected 465 amphibians and reptiles, 159 mammals, and considerable skeletal material.

Taxidermist Albrecht, who spent the summer on the Pribilof Islands, Alaska, was engaged principally in securing forty-one specimens of the fur-seal for a habitat group. He also collected thirty-eight specimens of sea birds.

Curator Weed and Taxidermist Pray, on their expedition to the Maine coast, collected 319 fishes, most of which are for use in a habitat group.

Insects received from various expeditions number 1,909. These include 978 from the western United States, collected by the zoological expeditions to the Southwest, and by the paleontological expedition of the Department of Geology to Colorado.

An important exchange of mammals with the United States National Museum, Washington, D.C., was concluded during the year, the final result to Field Museum being the acquisition of 536 highly desirable specimens belonging to many different mammalian groups, and covering a wide geographic range. By exchange with Dr. H. J. V. Sody, of Buitenzorg, Java, there were received 109 small mammals from Java, Borneo, Bali, and other East Indian Islands. Exchanges of small mammals, principally bats, were made with Dr. Nagamichi Kuroda and Dr. Mitosi Tokuda of Japan.

Birds received in exchanges number 151, and reptiles and amphibians, 1,225. These came from various institutions and from individuals, including the Naturhistorisches Museum of Basel, Switzerland; the Museum of Comparative Zoology, Cambridge, Massachusetts; the Carnegie Museum, Pittsburgh; the Museum of Zoology of the University of Michigan, Ann Arbor; Dr. Edward H. Taylor, Lawrence, Kansas, and Dr. Charles E. Burt, Winfield, Kansas.

Purchases during the year were mostly of small lots of especially desirable specimens from various parts of the world, including West Africa, Tanganyika, East Indies, West Indies, and Ecuador. They include 110 mammals, 953 birds, and 414 amphibians and reptiles.



## CATALOGUING, INVENTORYING AND LABELING—ZOOLOGY

The number of zoological specimens catalogued was 13,923. These are divided as follows: mammals 2,459; birds 5,448; birds' eggs (sets) 2,265; amphibians and reptiles 2,231; fishes 1,520. Osteological and anatomical specimens were catalogued under divisional subject and by special card index to the number of 409.

In the Division of Mammals, work has continued in reattaching original labels to specimens and in renumbering skulls to agree with skins. All specimens received during the year have been provided with typewritten labels, and all skulls cleaned have been numbered. About 100 bottles with alcoholic specimens have been labeled, and shelf-labels have been supplied in the cases where they are stored. Some 400 cards were added to the index of mammals, and many others were revised and retyped. Photographs of mammals were classified, remounted, and some 900 of them were labeled.

The reorganization of the collection of birds has been greatly advanced. During the year 17,976 specimens have been completely worked out, bringing the finished total to 32,548, or nearly one-third of the entire collection. This involves checking the identification and all data for each study skin, indexing by a double card system, and typing a new label which is sewed to the original. Coincident with this work has been the compiling of all geographic data relating to the collection, especially notes from Museum expeditions. These data have been assembled in a series of maps of a standard size fitted into a loose-leaf atlas. Fifteen such maps have been completed, and fifty-three other maps and charts have been drawn for other purposes, such as special exhibits, publications, labels, and base maps.

A special room was constructed in an unused part of a corridor on the third floor to house the collections of birds' eggs. Eight air-tight cases were installed to accommodate the present collections and allow for adequate expansion. The arrangement and cataloguing of the magnificent R. M. Barnes Collection was about one-half completed under the supervision of Mr. William Beecher. The Museum's other egg collections, which had been in storage for more than twenty years, were unpacked and partially arranged. Altogether 1,246 sets of eggs were permanently arranged, labeled and indexed.

Fifteen new steel cases for bird skins were installed and occupied. The entire study collection, about 100,000 specimens, was arranged in proper sequence. Primitive birds, mainly of large size, were transferred to the east gallery on the fourth floor.

Throughout the year at least one man, supplied by the Works Progress Administration, was engaged continuously in the much needed work of remodeling the flat bird skins and degreasing or repairing others.

Cataloguing of reptiles was kept up to date, and minor rearrangements of the collection were carried out, including shelf-labeling and transferring of much material from temporary containers to permanent ones.

In the Division of Fishes, 1,520 specimens were catalogued and some 23,500 numbered tags were prepared and attached to specimens. In addition, about 1,600 labels were written and placed in glass specimen bottles. Work has continued steadily in renewing faded or torn labels, separating material in large jars and tanks, and generally improving the accessibility of the material. The Curator reports that "the condition of the collection of fishes is in general much more satisfactory than for a long time previously. The study collections are being brought into such shape that some valuable material is available for the first time in many years. Practically all specimens that have been identified can now be found readily."

Growth of the osteological collection made necessary further expansion and rearrangement of storage facilities. Much economy of space was accomplished by cutting down and refitting drawers and boxes. About seventy skeletons were degreased, epiphyses were replaced wherever necessary, and the entire collection was checked for accuracy of labeling and numbering. All new material was card-indexed, and records were kept up to date. Six hundred and forty mammal skulls were cleaned.

For preservation and arrangement of insects, nine steel cabinets containing 505 glass-topped drawers were installed and partially occupied. The time of Curator William J. Gerhard and Assistant Curator Emil Liljeblad was largely devoted to preparation of shells for exhibition, but through the services of several assistants nearly all the year's acquisitions of insects were pinned and labeled.

Volunteer workers assisted from time to time in the work of several divisions of the Department. In the Division of Birds general assistance was received from Messrs. King Mather and William Mitten. In the same Division Mr. James von der Heydt assisted in remaking old bird skins. Mrs. Hermon Dunlap Smith, of Lake Forest, Illinois, Associate in the Division, was engaged in studies of the plumages of American wood warblers.



AFRICAN WEAVER BIRDS

Collected by Straus West African Expedition

Taxidermy by John W. Moyer

Background by Charles A. Corwin. Plant accessories by Frank Lettl

(Hall 20)



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In the Division of Reptiles assistance was received from Messrs. Fred Bromund, E. Wyllys Andrews, and O. H. Meeker. Mr. E. F. Peternell spent some time preparing bird skeletons, and Mr. Macklin de Nictolis made some special dissections of anatomical material. For nearly three months during the summer, Mr. George Miller, of South Bend, Indiana, was a volunteer worker in the Division of Insects. He inspected some 800 insect drawers, and disinfected them where necessary. He also checked a collection of moths for systematic arrangement.

During 1937, the cumulative results of continued assistance from the Works Progress Administration have become more apparent, and numerous projects have neared completion with an accompanying feeling throughout the Department that all lines of work and all types of collections, records, etc., are in better condition than ever before. The number of WPA workers assigned to the Department has varied somewhat. In November, perhaps an average month, there were 57, distributed as follows: Taxidermy, preparation and exhibition work, 21; map making and drafting, 4; Division of Mammals, 5; Division of Birds, 10; Division of Reptiles, 3; Division of Fishes, 1; Division of Anatomy and Osteology, 10; Division of Insects, 3.

#### INSTALLATIONS AND REARRANGEMENTS—ZOOLOGY

Four habitat groups of mammals, and three of birds, were completed and opened to public view during the year. The mammalian subjects are harbor seals, Asiatic takin, African klipspringer, and guereza monkey. The birds are all African, and include species characteristic of widely varying natural conditions.

The harbor seals, well-known marine mammals, appear resting on kelp-covered boulders in a scene representative of the coast of Washington. The species is a common one on both Atlantic and Pacific coasts of North America and, although familiar to many people, is seldom seen out of the water. The group was collected and prepared by Staff Taxidermist C. J. Albrecht. The background is by Staff Artist Charles A. Corwin.

The Asiatic takin is represented by five animals ranging in age from a young calf to an old male of massive proportions. The animal belongs to the group known as goat-antelopes, and is somewhat grotesque in appearance. It is shown on its favorite grounds in a dense growth of bamboo and evergreen near the timberline on a steep mountain side in western China. The specimens were col-

lected by Mr. Floyd Tangier Smith, leader of the Marshall Field Zoological Expedition to China (1930-32). The group was prepared by Staff Taxidermist Julius Friesser, assisted by Mr. Frank C. Wonder; the background is by Staff Artist Corwin and Mr. Arthur G. Rueckert.

The groups of klipspringer and guereza monkey represent medium-sized African mammals. One is shown on an open, rocky height and the other in the thick foliage of a large forest tree. The klipspringers were collected in Kenya Colony by the late Carl E. Akeley. The monkeys are from the Field Museum—*Chicago Daily News* Abyssinian Expedition (1926-27). Both groups were prepared by Staff Taxidermist Leon L. Pray.

In the synoptic or classified exhibits of mammals, several important additions were made. A case of Old World cats was reinstalled, with the addition of four specimens, bringing the total to ten. Among them are a Kaffir cat and a cheetah, collected by the Vernay-Lang Kalahari Expedition (1930) and presented by Mr. Arthur S. Vernay, of New York and London. There is also a caracal cat, presented by Captain Harold A. White, of New York, and a very beautiful clouded leopard from northern India. The animals used in this installation were prepared by Assistant Taxidermist W. E. Eigsti.

An important addition to George M. Pullman Hall (Hall 13) was a fine example of the South African oryx or gembuck. This was obtained by the Vernay-Lang Kalahari Expedition, and was mounted by Taxidermist Friesser.

The three habitat groups of birds described in the 1936 Report—Mount Cameroon birds, weaver-birds and Kalahari Desert birds—were completed and opened to the public in April. They form an African alcove in the Hall of Birds (Hall 20). Mrs. Oscar Straus, of New York, sponsor of the Straus West African Expedition which collected the material for the first two of these, visited the Museum on the day of their opening. The Kalahari birds were collected by Mr. Vernay, who presented them to the Museum. The weaver-bird group was prepared by Staff Taxidermist John W. Moyer; the other two by Staff Taxidermist Arthur G. Rueckert. Staff Artist Corwin painted the backgrounds.

Four additional bird groups are nearing completion. They include a group of albatrosses and other pelagic birds from Laysan Island in the mid-Pacific, which is being prepared by Staff Taxidermist Pray. A white stork nesting scene on a housetop in a Polish



village is being constructed by Taxidermists Moyer and Rueckert, who are also installing a nesting colony of giant orioles from Guatemala, and a group consisting of two species of toucans feeding on the abundant berries of a forest tree in Guatemala.

Preparator Frank H. Letl supervised the making of accessories for all habitat groups except those of the harbor seal and the guereza monkey.

An exhibit of restorations of fossil birds was installed in Hall 21 as an introduction to the subject of the ancestry of birds. Models of eight extinct birds that are sufficiently well known to permit restoration are shown. They include the famous *Archaeornis*, 135 million years old, known only from two specimens obtained in Bavaria; the Cretaceous fish-eating birds, *Ichthyornis* and *Hesperornis*, from the chalk beds of Kansas; the giant *Diatryma* and quail-like *Gallinuloides* of the lower Eocene of Wyoming; *Phororhacos*, the predacious crane of southern Argentina; the Moa (*Dinornis*) of New Zealand, and the Elephant-bird (*Aepyornis*) of Madagascar. *Dinornis*, *Aepyornis*, and *Diatryma* are shown in quarter-scale models, accompanied by natural size heads in full relief. The other five are natural size. The restorations were directed by Curator Rudyerd Boulton, and modeled in plaster, wax, and composition by Messrs. Gus Schmidt and Frank Gino, WPA artists. Scale drawings and diagrammatic details of the known skeletons were made by Mr. John Janecek.

Numerous models of amphibians and reptiles were made during the year and are awaiting final installation. Notable among them are Australian forms, the water dragon, blotched skink, and bandy-bandy, the last a strikingly marked black and white ringed snake. All these were based on material received from the Chicago Zoological Society. A South American tree boa was prepared from an exceptionally fine specimen received from the Lincoln Park Zoo, Chicago.

No exhibition work was done on insects, Curator Gerhard and Assistant Curator Liljeblad being continuously engaged in organizing, labeling and arranging an exhibit of shells. A careful selection of relatively large and attractive species of the latter was installed in four new cases with enclosed top-lighting. The number of specimens displayed is 1,791, representing 841 species of eighty-four families of mollusks. Actual installation was made by Preparator Herbert E. Weeks, an experienced installer provided through the co-operation of the Department of Anthropology.

A screen devoted to fish skeletons was added to the systematic series of mounted skeletons in Hall 19. All important groups of vertebrates are now represented in this hall. A further addition to the same hall was the installation, by Assistant Curator Davis, of an exhibit illustrating the history of the human skull, and comparing it with other vertebrate skulls. This is the first of a proposed series of comparative anatomical exhibits which will supplement the mounted skeletons.

The Department of Zoology ended the year in much better condition as to equipment, and far better organized for general effectiveness, than at any previous time. Presumably, such a statement could have been made after any active year, but 1937 seems to have been particularly characterized by the realization or approximate realization of various long-time needs, and the bringing of the whole organization to a stage from which every line of work can proceed with comparatively little lost motion and wasted effort. This is due in no small part to the increased effectiveness of WPA workers, most of whom are now so well selected and well trained that they fully justify the time, effort and money that have been expended on them. It is clearly evident that extra man-power was needed, and the WPA has furnished it to a large extent. Other important factors in the marked improvement are the increased storage facilities provided by new cases, and the very definite, planned results of the relatively inexpensive but highly important expeditions conducted during the year. The research collections are now in better order than at any previous time, and material is in hand for uninterrupted continuation of exhibition plans.

#### THE N. W. HARRIS PUBLIC SCHOOL EXTENSION

On December 1, 1937, this Department ended its twenty-fifth year of operation. This first quarter century has been marked by continuous growth and improvement. Because of the emphasis now placed by schools on visual education, the program of making the educational values of the Museum's natural history exhibits available to school children in their classrooms has gained in importance. Teachers, as well as pupils, have been encouraged to take fuller advantage of the Museum's educational and cultural resources.

School extension work today is recognized as an essential activity by the leading museums of the world. As a pioneer in this field,

the Harris Extension has been consulted in the past year by representatives of several institutions, particularly the Illinois State Museum, Springfield, Illinois, the Auckland Institute and Museum, Auckland, New Zealand, and the Australian Museum, Sydney, Australia. Details of the methods employed in its administration have been useful to others considering inauguration of similar activities.

A serious loss of leadership was felt by the staff of the Department in the death of Director Stephen C. Simms in January, 1937. Mr. Simms was the first Curator, a position which he held from December 1, 1912, until his appointment as Director of the Museum in 1928. Even in his new office he continued active supervision of the Harris Extension until his death. Thus the first quarter century of the organization and development of the Department may well be regarded as one of Mr. Simms' outstanding achievements.

During 1937 the routine work of the Department has been kept at a high level of efficiency. Thirteen new exhibits were installed, and five more are scheduled for completion early in January. These include exhibits showing the wood lily, the tall or later buttercup, some common orders of insects, frogs and toads of the Chicago area, the red-bellied woodpecker, the mourning dove, and two kinds of jaeger. Nine duplicate exhibits, which were no longer needed, were dismantled and the cabinets used for new installations. Due to the increase in the number and variety of subjects now available for distribution, the desirability of having more than four cases illustrating the same subject has lessened. Currently there are 1,233 exhibits dealing with 416 subjects, a diversification which makes it possible so to schedule circulation of cases that a pupil in the public schools will be unlikely to see a particular exhibit more than once during his entire school life.

The work of reinstallation, necessitated by the change from black backgrounds and labels to the present standard buff-colored type, was continued as time permitted. Twenty-eight exhibits were completely overhauled and replaced in newly painted cases, improvements in the installation method or replacements of material being made wherever required. The inevitable damage, occurring through accidents or careless handling of the cases in the schools, necessitated repairs on 225 cabinets. The injuries for the most part consisted of broken glass, cracked or splintered woodwork, or broken label frames. Only one serious loss occurred, the total destruction of two cases and their contents in a school fire.



The number of schools and institutions participating in the regular fortnightly delivery of two Harris Extension cases each, increased by nineteen during the year. The total number is now 465. These include 390 public elementary and high schools, thirty-nine denominational schools, nine private schools, and a number of Chicago Public Library branches, Y. M. C. A. branches, hospitals, boys' clubs, settlements, and detention homes.

Special loans of exhibits were made to the United Charities' summer camp at Algonquin, Illinois, and to the International Live Stock Exposition held in the amphitheater of the Union Stock Yards. Requests by schools for the loan of particular exhibits, in addition to those regularly received, were granted.

The two Department trucks traveled a total distance of 10,339 miles in the distribution of the 930 cases kept in circulation. This figure is less than that reported in recent years because of shortened school terms, and the opening of new streets which permit better routing of the trucks.

All of the cases were thoroughly inspected, cleaned and polished while they were in storage at the Museum during the summer vacation period of the schools. This work was done by the men who distribute them during the school year.

It is difficult to make an accurate estimate of the value of the Harris Extension service. However, the flood of voluntary letters of appreciation received from principals, teachers, and pupils indicates the really vital interest that is taken in the educational work done by this Department.

#### THE JAMES NELSON AND ANNA LOUISE RAYMOND FOUNDATION FOR PUBLIC SCHOOL AND CHILDREN'S LECTURES

During 1937 the James Nelson and Anna Louise Raymond Foundation has continued to provide series of entertainments, lectures, and other activities for the education and enjoyment of children. These included special patriotic programs as well as the customary spring and autumn courses of motion pictures presented in the James Simpson Theatre of the Museum. Guide-lecture tours of the exhibits also were made available to parties of children throughout the year, and extension lectures were given in classrooms and assembly halls of the schools. The year has been notable for the great number of groups from other states which have requested the

guide-lecture service, and for the increase in numbers of kindergarten and first grade groups given assistance. The lectures presented in the schools were in greater demand than at any previous period in the history of the Foundation.

#### ENTERTAINMENTS FOR CHILDREN—RAYMOND FOUNDATION

The purchase of a 16-millimeter sound projector for use in the James Simpson Theatre has made possible the showing of many excellent educational films not possible when only the silent equipment was available. The programs in the Saturday morning series of free motion pictures presented during the spring and autumn were as follows:

##### SPRING COURSE

- March 6—Isle of Perils; Insect Clowns; Snowtime.
- March 13—Mexico and Its Western Coast; The Clever Ant Lion; A Paiute Squaw Makes Acorn Bread; Uncle Sam Moves His Eskimo Family.
- March 20—The Octopus and Its Neighbors; Outwitting the Timber-wolf; Brock the Badger; Eclipse of the Sun; Tides and Moon.
- March 27—Undersea Thrills: Baby Goes Down; A Native Diver Among the Corals; Baiting the Sharks; The Strange Morays.
- April 3—The Dragons of the Pond; Belgium the Beautiful; My Friend the Harti; Beckoning Tropics.
- April 10—Japan—Customs and Industries; Baboons and Zebras; The Cement Gnomes.
- April 17—The Weaver-bird and Its Neighbors; The Eve of the Revolution:\* The Ride of Paul Revere; On Lexington Green; By Concord Bridge.
- April 24—Trooping the Color; The Great Raccoon Hunt; Alluring Bali; Alaskan Seals at Home.

##### AUTUMN COURSE

- October 2—The Haunted House; Su-Lin the Panda; Top o' the Morning; Cats and More Cats.
- October 9—Ocean Currents; Adventures of Columbus.\*
- October 16—Hawaiian Songs and Dances; The Strange Glow-worm; Zitari—a Famous Maya Legend.
- October 23—Grass—A Story of Persia; Around the Horn in a Square-rigger; Animal Life.
- October 30—The Traveling Newt; Marvels of the Microscope; Glimpses of Philippine Life; The Autogiro.
- November 6—The Semang and His Poisoned Arrows; The Todas of the Nilgiri Hills; The Nightingale; A Visit to Greenfield Village.
- November 13—The Wild Turkey; Housekeeping at the Zoo; On a South Sea Shore; Underwater Champions.
- November 20—Story of the Clouds; The Adventures of Daniel Boone:\* Blazing a New Trail; The Capture by Indians; The Escape.
- November 27—Fun on the Ice; Desert Demons; Thrills of Skiing; The Toy Shop.

\* Yale Chronicles, a gift to the Museum of the late Chauncey Keep.

In addition to the regular series of entertainments, two special programs were offered in February as follows:

February 12—Lincoln's Birthday Program: My Father; Native State.

February 22—Washington's Birthday Program: Washington as General; Washington as President.

Nineteen programs in all were offered in the Simpson Theatre for the children of the city and its suburbs. Total attendance at these entertainments was 27,775. Of this number, 4,357 came to the special programs, 12,083 to the spring course, and 11,335 to the autumn series.

Among newspapers which gave publicity to the programs were the *Chicago Daily News*, *Chicago Tribune*, *Chicago Herald and Examiner*, *Chicago Evening American*, *Chicago Daily Times*, and *Downtown Shopping News*.

Expressions of appreciation for films loaned for the programs are herewith made to the Motion Picture Bureau of the Young Men's Christian Association, Chicago; Castle Films, Chicago; the Cunard-White Star Line (Chicago office); and the Fouke Fur Company, St. Louis, Missouri.

#### MUSEUM STORIES FOR CHILDREN—RAYMOND FOUNDATION

Members of the Raymond Foundation staff prepared two series of Museum Stories for Children. Printed by Field Museum Press in folder form, these were distributed to all children attending the entertainments. The subjects of these stories correlated with films shown, or slides used, on the programs given in the Simpson Theatre. The titles of the stories in each series follow:

Series XXVIII—Flies Good and Bad; The Paiute Indians; Eclipses; Vicious Dwellers of the Coral Forests; Dragon-flies, Past and Present; Japanese Homes; Bird and Animal Partnerships; The Raccoons and Their Cousins.

Series XXIX—The Giant Panda; "Sea Rivers"; From Glow-worm to Firefly; The Story of Grasses; The Common Newt or Red Eft; Blow-guns and Their Users; Glimpses of Samoa; Clouds; Termites.

In addition to the regular distribution effected at entertainments, copies of these stories were distributed to children during the summer by displaying them at the North Door in a holder from which they could be taken. The year's total distribution of the stories was 36,000 copies.

#### LECTURE TOURS FOR CHILDREN—RAYMOND FOUNDATION

Classwork in the exhibition halls was extended to the following groups:



	Number of groups	Attendance
Tours for children of Chicago schools		
Chicago public schools.....	527	18,586
Chicago parochial schools.....	33	1,092
Chicago private schools.....	10	204
Tours for children of suburban schools		
Suburban public schools.....	299	9,323
Suburban parochial schools.....	15	525
Suburban private schools.....	4	79
Tours for special groups from clubs and other organizations.....	87	3,755

Guide-lecture service was given to 975 groups in all, and the aggregate attendance was 33,564. During the month of May, 111 groups from the public schools of the city, and seventy-two from suburban schools, were given lecture service varying from forty-five to sixty minutes depending on the age of the children and the subjects to be studied. Many more groups could have been handled had more lecturers been available. On November 30 and December 2, parties of 4-H Club boys and girls visited the Museum for special tours in the halls devoted to the life of prehistoric plants, animals and man, and in the Hall of Races of Mankind. The total number of National 4-H Clubs Congress delegates who attended these special tours was 1,352.

#### EXTENSION LECTURES—RAYMOND FOUNDATION

As in previous years, extension lectures were offered to the schools. Presented in classrooms and assemblies, before audiences of both high and elementary schools, the subjects were as follows:

##### FOR GEOGRAPHY AND HISTORY GROUPS

Glimpses of Eskimo Life; South America; North American Indians; Glimpses of Chinese Life; Native Life in the Philippines; Mexico and Its Southern Neighbors; The Romans; The Egyptians; Migisi, the Indian Lad.

##### FOR SCIENCE GROUPS

Field Museum and Its Work; Prehistoric Plants and Animals; Insect Life; Amphibians and Reptiles; The Story of Rubber; Coal and Iron; Coffee, Chocolate and Tea; A Trip to Banana Land; Birds of the Chicago Region; Animal Life in the Chicago Region; Trees of the Chicago Region; Wild Flowers of the Chicago Region; Animals at Home; Our Outdoor Friends.

The extension lectures given by the staff of the Raymond Foundation totaled 469, and the aggregate attendance was 169,337.

#### ACCESSIONS—RAYMOND FOUNDATION

For use in the Theatre, the small lecture hall, and in extension lectures, the Raymond Foundation acquired during the year, 521 slides made by the Division of Photography. The Museum Illustrator colored 365 of these.

The Foundation received also three natural color photographs on glass of the motmot and tanager, presented by Mr. Philip M. Chancellor, Hollywood, California; a sound motion picture film, *Alluring Bali*, purchased from Burton Holmes Films, Inc., Chicago; a portable stereopticon projector and screen presented by Mr. Clarence B. Mitchell, of Chicago, who also gave twenty-five natural color slides made by him of jades in the Museum collection; and 200 feet of unique motion picture film of Su-Lin, the young giant panda at the Chicago Zoological Park in Brookfield, purchased from Mr. C. J. Albrecht, Chicago, who was the photographer.

#### LECTURE TOURS AND MEETINGS FOR ADULTS—RAYMOND FOUNDATION

Guide-lecture service was made available without charge to clubs, conventions, colleges, hospitals and other organizations, and to Museum visitors in general. During July and August, morning tours were given in addition to the regular afternoon ones. Printed monthly schedules were distributed at the main entrance for the information of visitors. Co-operating agencies such as libraries and other civic centers throughout the city, and in the suburbs as well, also distributed schedules. The public tours included 103 of a general nature, and 196 covering specific subjects. These were taken advantage of by 282 groups, comprising 5,130 individuals. In addition to the public tours, there were special tours for 127 groups from colleges, clubs, hospitals and other organizations, in which 2,985 persons participated.

The James Simpson Theatre was used by the Board of Education on June 3 for commencement exercises for 780 foreign-born adults. On November 8, Mr. and Mrs. H. H. Evans, of the Canal Zone, lectured in the Theatre on "Plants of Panama" before a specially invited group of botanists. The Raymond Foundation staff assisted in handling these two meetings.

The Theatre was used also by the Chicago Park District for a prize-distributing program on the evening of January 15. There were 400 present. On January 29, the Chicago Recreation Commission held graduation exercises in the Theatre for the Recreation Training Institute, with 390 present.

The use of the small lecture hall was granted to three small groups for educational purposes. Two talks were given to women's groups by Raymond Foundation staff members. The attendance was 123.

SUMMARY OF ATTENDANCE AT ENTERTAINMENTS, LECTURES,  
TOURS, ETC.—RAYMOND FOUNDATION

The number of groups reached through the activities of the James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures totaled 1,877 and the aggregate attendance included in these groups was 239,724 individuals.

The personal interest of Mrs. James Nelson Raymond, evidenced not only by her continued financial support but also by her intimate knowledge of the methods, material, and objectives of the Lecture Foundation, is greatly appreciated by the members of the staff.

## LECTURES FOR ADULTS

The Museum's sixty-seventh and sixty-eighth courses of free lectures for adults were given on Saturday afternoons in the James Simpson Theatre during the spring and autumn months. As usual, they were illustrated with motion pictures and stereopticon slides. Following are the programs of both series:

## SIXTY-SEVENTH FREE LECTURE COURSE

- March 6—Birds, Bergs and Kodiak Bears.  
Mr. William L. Finley, Portland, Oregon.
- March 13—Amazing Finland.  
Mr. H. Canfield Cook, Chicago.
- March 20—Hunting with the Tiger Man.  
Mr. Sasha A. Siemel, New York.
- March 27—Wandering Windjammer.  
Mr. Alan Villiers, Melbourne, Australia.
- April 3—Burma—Land of the Golden Pagodas.  
Mr. H. C. Ostrander, Jersey City, New Jersey.
- April 10—The Kingdom of the Moors.  
Captain Carl von Hoffman, New York.
- April 17—Hunting with a Microphone.  
Dr. Arthur A. Allen, Cornell University, Ithaca, New York.
- April 24—Plant Life in the Caribbean.  
Dr. William Seifriz, Philadelphia, Pennsylvania.

## SIXTY-EIGHTH FREE LECTURE COURSE

- October 2—The Life History of the Alaskan Fur Seal.  
Mr. C. J. Albrecht, Field Museum.
- October 9—Roaming with the Movie Camera.  
Captain John D. Craig, New York.
- October 16—Deserts of the Southwest.  
Mr. John Claire Monteith, Hollywood, California.
- October 23—Transpolar Commerce by Air.  
Mr. Vilhjalmur Stefansson, New York.
- October 30—Tamest Africa.  
Dr. S. A. Barrett, Milwaukee Public Museum.



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- November 6—Let's Consider the Heavens.  
Dr. Forest Ray Moulton, Washington, D.C.
- November 13—Snaring Bird Songs.  
Mr. Charles Crawford Gorst, Boston, Massachusetts.
- November 20—Exploring in the Unknown Arctic.  
Mr. Edward Shackleton, Oxford University Exploration Club.
- November 27—Voyaging Fuegian Waters to Cape Horn.  
Mr. Amos Burg, Portland, Oregon.

The total attendance at these seventeen lectures was 16,494 persons, of whom 8,558 attended the spring course, and 7,936 the autumn course.

### LAYMAN LECTURE TOURS

An innovation of the year was a series of Sunday afternoon lecture tours, inaugurated on October 3. The conductor of the tours is Mr. P. G. Dallwig, a Chicago business man, and Member of the Museum, whose deep interest in scientific subjects has led him to give his services, as Layman Lecturer, without cost to the Museum or to those participating in the lecture tours. Parties meet at 2 P.M. in Stanley Field Hall. To join the groups it is necessary to register and receive identification tickets, as the number that can be taken on each tour is limited. The subjects presented were as follows:

- October (five Sundays)—The Parade of the Races (Hall of Man).
- November (four Sundays)—Nature's "March of Time" (Hall of Historical Geology).
- December (four Sundays)—Digging up Our Ancestral Skeletons (Hall of the Stone Age of the Old World).

Thirteen of these lectures were given, and the number of persons attending was 905.

### SUMMARY OF ATTENDANCE AT LECTURES, ETC.

The Museum rendered instruction or other services during the year to a total of 1,909 groups, aggregating 257,913 individuals. These figures include the 1,877 groups and 239,724 individuals reached through the activities of the James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures, and, in addition, the 16,494 persons attending the adult lectures, the 905 persons attending the special Sunday afternoon lecture tours, and 790 persons who attended two meetings of outside organizations to which the James Simpson Theatre and the small lecture hall were made available.

## THE LIBRARY

The year 1937 has been marked by further development of the services which the Library offers both to scientists and the general public. Continued progress in this direction is one of the principal objectives toward which the Library staff is constantly striving.

The Library at the end of the year contained more than 105,000 books and pamphlets. Part of these are on the shelves of the General Library; additional thousands are allocated to Departmental Libraries, where they function as exceedingly useful collections on special subjects. Records for all are made in the General Library. Upon request, books are brought from different parts of the building to the Reading Room of the General Library. During 1937, more than 10,000 parts of periodicals and publications, exclusive of books, were received and prepared for readers, and 19,808 cards were added to the catalogue.

A much needed inventory of the Library has been made, and in two of the Departmental Libraries the books have been partially rearranged, in order to make needed space. Many volumes that had been in use for years urgently needed repairs, and some of these have now received careful treatment by binders assigned by the Works Progress Administration. This has added years to the usefulness of the books and, incidentally, has much improved their appearance. The WPA workers have also bound many books which have long needed attention. A large amount of this work remains to be done. The work of treating leather-bound books with oil, and cleaning them, was continued during part of the year.

The translation of some Russian and Polish papers on anthropological subjects was also accomplished by WPA workers.

More people are learning that the Museum Library has material not to be found elsewhere in the city, and consequently increasing demands are being made upon its resources. Students of various universities and other institutions are among those making extensive use of the Library. Persons searching for rare source material often find it here. Others seeking to learn what is being done today in various scientific fields also obtain valuable assistance. Authors, scientific and otherwise, radio entertainers, writers of motion picture scenarios, and advertising writers and artists, are among those seeking help from the Library.

As pointed out in previous Reports, the Library depends for its growth primarily on its exchanges of publications with other

scientific and educational institutions. It is a pleasure to note the addition in 1937 of much valuable material through advantageous new exchange arrangements effected with various institutions and individuals. Also, several exchange correspondents have graciously sent earlier as well as current numbers of their publications, thus helping to complete the Museum's files. These publications include material of value to all Departments. Some recent numbers of Field Museum's Geological Series were sent to various individuals who had not previously been exchanging publications with this institution. The response to these has been very gratifying, and valuable contacts have thus been made.

The Library was fortunate in 1937 in being enabled to renew subscriptions to a few more of the periodicals formerly received and then discontinued for several years. These, like those renewed in the previous years, included the intervening volumes so as to complete various sets. Unfortunately, however, there are many files of periodicals which still lack some volumes, and it is hoped that these may gradually be completed. This year twenty of the early volumes of *Journal of Botany* were secured, and *Zoologischer Anzeiger* was completed, as were also *American Journal of Physical Anthropology*, *Asia Major*, *Gartenflora*, *Ostasiatische Zeitschrift*, *Zeitschrift für Säugetierkunde*, *Zoologische Garten*, and *Zeitschrift für die gesamte Ornithologie*. Each one renewed adds a bit more to the efficiency of the Library, as such periodicals contain the latest discoveries and newest achievements of science.

Every year brings further demands for books on new scientific advances. Each new exhibit installed is preceded by calls for more books, and during the past year an encouraging number has been added. Also, there has fortunately been opportunity to purchase some books, which have long been among the special desiderata, and which include several very difficult to obtain. Outstanding among these should be mentioned: F. Fontana, *Ricerche Fisiche sopra il Veleno della Vipera*; J. E. Gray, *Spicilegia Zoologica*; M. Maki, *Monograph of the Snakes of Japan*; Prinz zu Wied-Neuwied Maximilian, *Reise nach Brasilien, Atlas Abbildungen zur Naturgeschichte Brasiliens*; Johann Baptist von Spix, *Animalia nova . . . Lacertarum . . . Serpentium, Testudinum et Ranarum*, and J. Wagler, *Serpentium Brasiliensium* (in J. B. von Spix).

The Library has also purchased some of the later and present-day books that are important, among which are the following: A. Brauer, *Beiträge zur Kenntniss der Entwicklungsgeschichte und*



*Anatomie der Gymnophionen*; P. Buchanan, *Journey to Madras Through the Countries of Mysore, Canara and Malabar*; C. H. Curran and Carl Kauffeld, *Snakes and Their Ways*; F. Delaroche, *Eryngiorum nec non Generis Novi Asclepideae Historia*; Karl Döhring, *Kunst und Kunstgewerbe in Siam*; Duncker, Ehrenbaum, Kyle, Mohr and Schnakenbeck, *Die Fische der Nord- und Ostsee*; Arthur Evans, *The Palace of Minos at Knossos*; H. Gerth, *Geologie Südamerikas*, (Volumes 1 and 2); A. Goette, *Die Entwicklungsgeschichte der Unke*; Grinnell, Dixon and Linsdale, *Fur-bearing Mammals of California*; T. H. Hendley, *Catalogue of the Collections in the Jeypore Museum*; J. D. Hooker, and Th. Thomason, *Flora Indica*; International Colportage Missions, *Ojibway Dictionaries*; Robert Matheson, *Medical Entomology*; C. K. Meek, *Tribal Studies in Northern Nigeria*; Minister of the Colonies, Rome, *Voyageurs italiens en Afrique*; Fanny Parkes, *Wanderings of a Pilgrim . . . in the East*; Edmund J. Peck, *Eskimo-English Dictionary*; C. G. and B. Z. Seligman, *Pagan Tribes of the Nilotic Sudan*; R. W. Swallow, *Ancient Chinese Bronze Mirrors*; and J. R. de la Torre-Bueno, *A Glossary of Entomology*.

Sections of the latest edition of Stieler's *Atlas of Modern Geography* are being received as issued, as are also the parts of the *Dictionary of American English*, edited by Sir William Craigie. These are being published at irregular intervals.

President Stanley Field presented Alexander Wilson's *American Ornithology: Plates*, published in 1829. Also, by gift of Mr. Field the Library has received a copy of Stanley Charles Mott's *Chinese Jade Throughout the Ages*, and S. Kip Farrington's *Atlantic Game Fishing*. Dr. E. E. Sherff, of Chicago, has again made many valuable additions to the collection of botanical books.

In addition to those who have given books, there are about 150 other persons who have presented smaller publications as issued. These are most desirable, and provide material that is of great use. The Library gratefully acknowledges these gifts.

Several members of the Museum Staff have generously given current numbers of various periodicals, and President Field again presented weekly the numbers of the *Illustrated London News*.

The Library wishes to acknowledge with gratitude the assistance given by other libraries through loans of books which were needed for consultation. Among these should be mentioned especially the John Crerar Library, Chicago; the Libraries of the University of Chicago; Newberry Library, Chicago; Library of the Art Institute of Chicago; The Library of Congress, Washington, D.C.; United

States Department of Agriculture, Washington; the Library of Northwestern University, Evanston, Illinois; Library of the Missouri Botanical Garden, St. Louis, Missouri; the Library of Peabody Museum, Harvard University, Cambridge, Massachusetts; and the Library of the American Museum of Natural History, New York.

### DIVISION OF PRINTING

The number of copies of publications and miscellaneous printing jobs produced in the Division of Printing during 1937 exceeded that of any previous year. Twenty-seven new numbers were added to the regular publication series, requiring an aggregate of 4,162 pages of type composition. The number of copies of these printed by Field Museum Press was 26,757. Three of these publications were in the Anthropological Series, ten in the Botanical Series, seven in the Geological Series, six in the Zoological Series, and one was the *Annual Report of the Director* for 1936. In addition, five leaflets, aggregating 214 pages of type composition, were published in editions totaling 13,420 copies. Two of these were on anthropological and three on botanical subjects. Of the eighteenth edition of the *General Guide*, a 48-page book, 10,026 copies were printed. A sixth edition, consisting of 2,552 copies, of the 72-page *Handbook of Field Museum* was also issued.

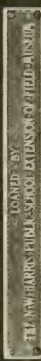
The number of labels printed for exhibits reached a total of 6,922, including those for all Departments of the Museum. Other printed matter, such as the twelve issues of *Field Museum News*, Museum stationery, posters, lecture schedules, supplies, etc., brought the total number of impressions for the year to 882,754.

A detailed list of publications follows:

#### PUBLICATION SERIES

- 378.—Geological Series, Vol. VI, No. 16. A New Genus, *Barylambda*, for *Titanoides faberi*, Paleocene Amblypod. By Bryan Patterson. January 26, 1937. 4 pages. Edition 834.
- 379.—Botanical Series, Vol. XIII, Part II, No. 2. Flora of Peru. By J. Francis Macbride. March 15, 1937. 408 pages. Edition 827.
- 380.—Anthropological Series, Vol. XXV, No. 1. Skeletal Material from San José Ruin, British Honduras. By Wilfrid D. Hambly. March 25, 1937. 20 pages, 3 text figures. Edition 672.
- 381.—Zoological Series, Vol. XIII, Part X. Catalogue of Birds of the Americas. By Charles E. Hellmayr. April 12, 1937. 234 pages. Edition 772.
- 382.—Report Series, Vol. XI, No. 1. Annual Report of the Director for the Year 1936. January, 1937. 148 pages, 14 collotypes. Edition 5,553.
- 383.—Geological Series, Vol. VII, No. 1. The Grinnell Ice-Cap. By Sharat K. Roy. May 26, 1937. 20 pages, 9 text figures, 1 map. Edition 825.
- 384.—Geological Series, Vol. VII, No. 2. The History and Petrography of Frobisher's "Gold Ore." By Sharat K. Roy. May 26, 1937. 18 pages, 9 text figures, 1 map. Edition 809.

The two main types of control in the market for land are zoning and subdivision. Zoning is the process of dividing land into different uses, such as residential, commercial, and industrial. Subdivision is the process of dividing land into smaller lots. Both zoning and subdivision are used to control the use of land and to ensure that land is used in a way that is consistent with the public interest. Zoning is typically used to control the use of land in urban areas, while subdivision is typically used to control the use of land in rural areas. Both zoning and subdivision are important tools for land use planning and control.



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- 385.—Geological Series, Vol. VI, No. 17. Mounted Skeleton of Homalodotherium. By Elmer S. Riggs. May 26, 1937. 12 pages, 5 text figures. Edition 823.
- 386.—Botanical Series, Vol. XVII, No. 1. The North American Species of Rumex. By K. H. Rechinger, Jr. June 24, 1937. 152 pages, 25 text figures. Edition 860.
- 387.—Botanical Series, Vol. IX, No. 3. Useful Plants and Drugs of Iran and Iraq. By David Hooper, with notes by Henry Field. June 30, 1937. 174 pages. Edition 837.
- 388.—Botanical Series, Vol. XVI, Part I. The Genus Bidens. By Earl Edward Sherff. August 31, 1937. 346 pages, 88 zinc plates. Edition 821.
- 389.—Botanical Series, Vol. XVI, Part II. The Genus Bidens. By Earl Edward Sherff. September 21, 1937. 364 pages, 101 zinc plates. Edition 828.
- 390.—Botanical Series, Vol. XVII, No. 2. Studies of American Plants—VII. By Paul C. Standley. September 28, 1937. 72 pages. Edition 871.
- 391.—Botanical Series, Vol. XVIII, Part I. Flora of Costa Rica. By Paul C. Standley. October 12, 1937. 398 pages, 1 map. Edition 866.
- 392.—Botanical Series, Vol. XVIII, Part II. Flora of Costa Rica. By Paul C. Standley. October 20, 1937. 392 pages. Edition 894.
- 393.—Botanical Series, Vol. XIII, Part VI, No. 2. Flora of Peru. By J. Francis Macbride. October 29, 1937. 230 pages. Edition 859.
- 394.—Anthropological Series, Vol. XXVI, Part I. Source Book for African Anthropology. By Wilfrid D. Hambly. November 30, 1937. 404 pages, 76 text figures, 4 maps. Edition 627.
- 395.—Botanical Series, Vol. XVII, No. 3. Studies of American Plants—VIII. By Paul C. Standley. December 10, 1937. 60 pages. Edition 872.
- 396.—Anthropological Series, Vol. XXVI, Part II. Source Book for African Anthropology. By Wilfrid D. Hambly. December 20, 1937. 550 pages, 35 text figures, 1 map. Edition 660.
- 397.—Geological Series, Vol. VII, No. 3. Asterism in Garnet, Spinel, Quartz and Sapphire. By Albert J. Walcott. December 28, 1937. 20 pages, 7 text figures. Edition 862.
- 398.—Zoological Series, Vol. XX, No. 23. Notes on Sea-Basses of the Genus Centropristes. By Alfred C. Weed. December 28, 1937. 30 pages, 2 text figures. Edition 810.
- 399.—Zoological Series, Vol. XX, No. 24. American Bats of the Subfamily Emballonurinae. By Colin Campbell Sanborn. December 28, 1937. 34 pages, 12 text figures. Edition 813.
- 400.—Geological Series, Vol. VI, No. 19. Some Notoungulate Braincasts. By Bryan Patterson. December 28, 1937. 30 pages, 6 text figures. Edition 827.
- 401.—Geological Series, Vol. VI, No. 18. A Soricid and Two Erinaceids from the White River Oligocene. By Bryan Patterson and Paul O. McGrew. December 28, 1937. 28 pages, 15 text figures. Edition 814.
- 402.—Zoological Series, Vol. XX, No. 25. Notes on Snakes from the Yucatan Peninsula. By E. Wylls Andrews. December 28, 1937. 6 pages. Edition 826.
- 403.—Zoological Series, Vol. XX, No. 26. The History of *Elaps collaris* Schlegel, 1837–1937. By Karl P. Schmidt. December 28, 1937. 4 pages. Edition 855.
- 404.—Zoological Series, Vol. XX, No. 27. Variable Dentition in a Chinese Insectivore. By Wilfred H. Osgood. December 28, 1937. 4 pages. Edition 840.

## LEAFLET SERIES

- Anthropology, No. 30 (third edition). The Races of Mankind. By Henry Field, with a preface by Berthold Laufer and an introduction by Sir Arthur Keith. 44 pages, 9 collotypes. September, 1937. Edition 4,137.
- Anthropology, No. 31 (second edition). Prehistoric Man. Hall of the Stone Age of the Old World. By Henry Field, with a foreword by Berthold Laufer. 44 pages, 8 collotypes, 1 map, 1 cover design. September, 1937. Edition 3,077.

## 246 FIELD MUSEUM OF NATURAL HISTORY—REPORTS, VOL. XI

- Botany, No. 15 (second edition). Spices and Condiments. By James B. McNair. 64 pages, 11 zinc etchings. June, 1937. Edition 1,075.  
Botany, No. 20. House Plants. By Robert Van Tress. 36 pages, 31 text figures, 1 cover design. April, 1937. Edition 2,615.  
Botany, No. 21. Tea. By Llewelyn Williams. 30 pages, 9 collotypes, 1 cover design. July, 1937. Edition 2,516.

### GUIDE SERIES

- General Guide to Field Museum of Natural History Exhibits. Eighteenth edition. 1937. 48 pages, 3 zinc etchings, 1 halftone, 1 collotype (cover). Edition 10,026.  
Handbook. General information concerning the museum, its history, building, exhibits, expeditions and activities. Sixth edition. June, 1937. 72 pages, 8 halftones. Edition 2,552.

## DIVISIONS OF PHOTOGRAPHY AND ILLUSTRATION

The negatives, prints, photographic enlargements, lantern slides, transparent exhibition labels, etc., produced in the Division of Photography during 1937 totaled 12,415 items. This represents a large decrease from the 1936 production, which is explained by the fact that, unlike the previous year, there were no photographers assigned to the Division by the Works Progress Administration. The majority of the items produced were in fulfillment of requisitions from the various Departments and Divisions of the Museum, but also included in the total are 473 prints, enlargements, and stereopticon slides for sale on orders received from the public.

The important task of cataloguing the Museum's extensive collection of negatives, now numbering approximately 87,000, was continued by WPA clerks. This work makes the negative collection much more accessible and convenient for filling the constant stream of requisitions received.

The Museum Collotyper produced a total of 634,925 prints. These include collotype illustrations for publications and leaflets, covers for various published works, picture post cards, and poster headings.

The Museum Illustrator filled 647 orders for various types of art work received from various Departments and Divisions. Included in this total were more than 100 drawings, the coloring of 365 lantern slides, and various items of photograph retouching, lettering, map-making, etc.

## DIVISION OF PUBLICATIONS

The publications of the Museum, as in previous years, were generously distributed during 1937. To institutions and individuals engaged in scientific work there were sent on exchange account 15,604 copies of scientific publications, 1,264 leaflets, and 933 miscel-



laneous publications and pamphlets. Also, 3,898 copies of the 1936 *Annual Report of the Director*, and 648 leaflets were sent to Members of the Museum. Sales during the year totaled 840 scientific publications, 9,170 leaflets, and 11,363 miscellaneous publications and pamphlets, such as Guides, Handbooks, and Memoirs.

Forty-two large boxes containing 6,454 individually addressed packages of publications were shipped to Washington, D.C., for distribution through the courtesy of the exchange bureau of the Smithsonian Institution, to museums, research organizations, scientific libraries, and individuals in foreign countries, from whom valuable material is received for the Library of Field Museum. An equally large quantity of books was sent by mail to domestic institutions and individuals on the exchange list.

Thirty-seven new exchange arrangements which were established with institutions and scientists during the year should prove of mutual advantage.

For future sale and distribution, 29,894 copies of various publications issued during 1937 were wrapped in packages, labeled, and stored in the stock room.

The continued popularity of two anthropology leaflets, *The Races of Mankind* and *Prehistoric Man*, necessitated the issuing of new editions of each. The Museum in 1937 sold 2,195 copies of these two leaflets which were first published in 1933. A second edition was issued also of the botany leaflet *Spices and Condiments*, originally published in 1930.

Of the books published under other auspices and handled on consignment at the Museum, sales for the year totaled 1,690 copies. These are books on natural history subjects written in popular style. The authors of some of them are members of the Staff of Field Museum.

#### POST CARDS

The total number of post cards sold during 1937 was 127,827, of which 26,510 were grouped into 1,291 sets. The increase over the preceding year's total sales was 43,777, covering both individual cards and sets of cards.

A new set was added to the cards issued for the Department of Anthropology. It contains eighty views of the sculptures by Miss Malvina Hoffman of the living races of mankind—all that have been reproduced in post card form. Additions to the individual post card assortment include one geological and four zoological subjects.

## DIVISION OF PUBLIC RELATIONS

The publicity received by Field Museum increased to a notable extent in 1937 as compared with several preceding years. Not only were the articles and photographs printed in newspapers and other publications more numerous, but they were given more prominent display. There were many full-page and half-page feature articles, and layouts of pictures of Museum subjects. Outstanding especially was the newspaper space given the arrival of the twenty millionth visitor to the present building and the special exhibits arranged in connection with this event. The *Chicago Sunday Tribune* gave a full page to an article and pictures on this subject, and the *Chicago Sunday Times* devoted two full pages to it, while major space was given to it also in the news columns of the daily editions of these and other newspapers. On other subjects, three full pages of photographs appeared in successive weeks in the Saturday rotogravure section of the *Chicago Daily News*, and a number of page and half-page features were printed at various times in the *Chicago Evening American* and the *Chicago Herald and Examiner*. Outside Chicago also extensive attention was given to Field Museum, especially noteworthy being displays in the *New York Times*, the *Illustrated London News*, and the pictorial magazine *Life*, to mention only a few.

To keep the public informed constantly of all Museum activities, both news and feature stories, and many photographs, were released several times each week by the Division of Public Relations. These were distributed not only to the local press (metropolitan and suburban) but were also circulated nationally and internationally through various news agencies such as the Associated Press, United Press, Universal Service, International News Service, Science Service, and others. The total number of news and feature articles released was 296, or an average of more than five per week. To illustrate these articles, several hundred photographs and captions were also distributed.

The series of articles and pictures entitled "Exhibit of the Week," begun in the latter part of 1936, was continued through the greater part of 1937. By applying this designation to them, renewed interest was created for forty-eight especially selected Museum exhibits which no longer possessed other elements of timeliness. These articles were designed to carry out a special aim of Museum publicity to supplement the announcement of current activities with general educational material which fits into the basic program of disseminating and interpreting knowledge.

The releases from the Museum, by keeping the institution constantly before the eyes of editors of newspapers and magazines, stimulated them frequently to assign their own writers and cameramen to obtain additional material about the Museum and its activities, thus increasing the total publicity. Occasional favorable comments on the work of the Museum appeared also in the editorial columns of various publications.

The monthly bulletin, *Field Museum News*, published for the Members of this institution, was carried on for its eighth year and eighth volume. The preparation and distribution of this periodical is one of the duties of the Division of Public Relations. A number of innovations in editorial content were made, while the main object of presenting the widest possible variety of articles and photographs in the limited space available was pursued as in previous years. Copies were delivered to all Members at the beginning of each month. While maintenance of constant contact with the membership is the principal aim of this publication, it performs additional functions also, as an exchange item with other scientific institutions and libraries, and as an additional medium of general publicity. Copies are sent to newspaper and magazine editors, and as a result articles in it are frequently reprinted in full, or quoted.

The Division of Public Relations assisted in publicizing the Museum's series of dramatized radio programs, "From the Ends of the Earth," which themselves constituted an outstanding achievement in attracting public interest. In addition to this series, the Museum received other radio publicity through programs offered by network systems and individual broadcasting stations. Another medium contributing to publicity was the motion picture newsreels, which on several occasions made films of Museum subjects.

As in many previous years, various organizations controlling advertising media made them available to the Museum without charging for their services. The Illinois Central System and the Chicago and North Western Railway displayed at their city and suburban passenger stations placards announcing the Museum's spring and autumn lecture courses. Several ceiling-cards featuring Field Museum exhibits appeared in the street cars of the Chicago Surface Lines, and both that company and the Chicago Motor Coach Company posted in their vehicles other placards suggesting that their patrons visit the Museum.

Information folders about the Museum have been widely distributed by hotels, clubs, libraries, schools, department stores, and



public institutions, and many of these have also displayed posters advertising the lecture courses.

In addition to the aforementioned activities, a large part of the time of the Division of Public Relations has been devoted to numerous other duties, especially editorial work on certain Museum publications, and special articles requested by a number of periodicals. A volume of correspondence and other tasks involving detailed work of various kinds is also handled in the Division. Several hundred invitations were sent to the chairmen of conventions held in this city, and through them thousands of Museum folders were distributed to the delegates attending their meetings.

### DIVISION OF MEMBERSHIPS

Although a slightly larger number of new Members was enrolled in 1937 than in 1936, the losses incurred by death and cancellation also were greater, resulting in a smaller net increase in membership. The total number of memberships on record as of December 31, 1937, is 4,266.

Field Museum wishes to express its appreciation and gratitude to all its Members, who, by their loyal support, help to make possible the continuance of the institution's great educational work. An expression of appreciation for their past support is due likewise to those who found it necessary to discontinue their membership, and an invitation is extended to them to resume their association with the work of the Museum whenever they may find it convenient to enroll as Members again.

The following tabulation shows the number of names on the list in each of the membership classifications at the end of 1937:

Benefactors.....	23
Honorary Members.....	15
Patrons.....	26
Corresponding Members.....	6
Contributors.....	113
Corporate Members.....	46
Life Members.....	281
Non-Resident Life Members.....	10
Associate Members.....	2,404
Non-Resident Associate Members.....	5
Sustaining Members.....	13
Annual Members.....	1,324
Total Memberships.....	4,266

The names of all persons listed as Members during 1937 will be found on the pages at the end of this Report.

## CAFETERIA

Meals and other refreshments were served to 146,951 persons during 1937 in the lunch rooms operated in the Museum. This was a notable increase over 1936 when the number served was 118,841. Of the 1937 total, 103,682 patronized the main Cafeteria and 43,269 used the children's room. These figures compare with 81,534 and 37,307 respectively in 1936.

In the pages which follow are submitted the Museum's financial statements, lists of accessions, names of Members, *et cetera*.

CLIFFORD C. GREGG, *Director*

# COMPARATIVE ATTENDANCE STATISTICS AND DOOR RECEIPTS

FOR YEARS 1936 AND 1937

	1937		1936
Total attendance.....	1,292,023		1,191,437
Paid attendance.....	94,217		68,375
Free admissions on pay days:			
Students.....	29,460		27,205
School children.....	119,486		63,914
Teachers.....	2,492		2,165
Members.....	1,524		997
Admissions on free days:			
Thursdays (52).....	186,198	(53)	171,357
Saturdays (52).....	322,980	(52)	373,470
Sundays (52).....	535,666	(52)	483,954
Highest attendance (May 21).....	42,421	(Sept. 6)	21,229
Lowest attendance (Dec. 17).....	129	(Jan. 22)	73
Highest paid attendance (Sept. 6).....	3,448	(Sept. 7)	2,694
Average daily admissions (365 days).....	3,570	(366 days)	3,255
Average paid admissions (209 days).....	450	(209 days)	327
Number of guides sold.....	7,555		5,339
Number of articles checked.....	21,917		16,969
Number of picture post cards sold.....	127,827		84,050
Sales of publications, leaflets, handbooks, portfolios, and photographs.....	\$5,289.49		\$4,441.33



## COMPARATIVE FINANCIAL STATEMENTS

FOR YEARS 1936 AND 1937

## INCOME

	1937	1936
Endowment Funds.....	\$175,878.29	\$173,521.14
Funds held under annuity agree- ments.....	37,022.16	38,646.13
Life Membership Fund.....	13,275.28	13,672.74
Associate Membership Fund...	12,754.67	12,407.71
Chicago Park District.....	92,122.69	91,029.94
Annual and Sustaining Member- ships.....	12,383.50	11,167.00
Admissions.....	23,554.25	17,093.75
Sundry receipts.....	19,193.00	12,666.29
Contributions, general purposes.	50,805.04	450.00
Contributions, special purposes (expended <i>per contra</i> ).....	58,558.57	48,567.37
Special funds: Part expended this year for purposes desig- nated (included <i>per contra</i> )	16,358.07	16,884.79
	<u>\$511,405.52</u>	<u>\$436,106.86</u>

## EXPENDITURES

Collections.....	\$ 5,796.12	\$ 2,903.94
Operating expenses capitalized and added to collections...	46,338.05	51,732.60
Expeditions.....	10,305.17	1,228.47
Furniture, fixtures, etc.....	48,531.38	12,385.17
Wages capitalized and added to fixtures.....	2,240.86	794.90
Pensions, group insurance.....	15,904.12	15,833.45
Departmental expenses.....	43,202.37	41,342.48
General operating expenses....	298,735.04	327,831.67
Annuities on contingent gifts...	35,929.23	36,431.64
Added to principal of annuity endowments.....	1,092.93	2,214.49
Interest on loans.....	2,191.06	3,828.99
Paid on bank loans.....	20,375.80	38,624.20
	<u>\$530,642.13</u>	<u>\$535,152.00</u>
Deficit... \$	19,236.61	Deficit.. \$ 99,045.14
Contribution by Mr. Marshall Field...	28,750.00	74,625.93
Balance.. \$	9,513.39	Net Deficit \$ 24,419.21

Notes payable January 1.....	\$ 56,375.80	\$ 95,000.00
Paid on account, by contribution of Mr. Stanley Field.....	20,375.80	38,624.20
Balance payable December 31.....	\$ 36,000.00	\$ 56,375.80

## THE N. W. HARRIS PUBLIC SCHOOL EXTENSION

	1937	1936
Income from Endowment.....	\$18,964.67	\$16,717.15
Operating expenses.....	13,879.08	16,365.50
December 31..... Balance	\$ 5,085.59	Balance \$ 351.65

## LIST OF ACCESSIONS

## DEPARTMENT OF ANTHROPOLOGY

BROOKS, J., Chicago: 1 incomplete prehistoric skeleton of infant found on surface—near Lake City, southwestern Colorado (gift).

CAUDILL, MRS.—, Chicago: 1 drum and 1 figure—Hopi; 1 bow, 1 quiver and 11 arrows—Apache, United States (gift).

CHRISTIE, MRS. ELIZABETH DUNLAP, ESTATE OF, Chicago: 1 embroidered Persian shawl—Iran (gift).

FIELD, DR. HENRY, Chicago: 1 male Arab skull—Bagdad, Iraq (gift).

## FIELD MUSEUM OF NATURAL HISTORY:

Collected by Henry Field and Richard A. Martin (Field Museum Anthropological Expedition to the Near East): 137 potsherds from surface—Tel-Brak, northeastern Syria.

Collected by Paul S. Martin (Field Museum Archaeological Expedition to the Southwest): about 15,600 objects: potsherds, pottery, stone and bone implements, and portions of two skeletons.

Transferred from Department of Geology: 4 specimens of flint and opal, for experimental work in producing stone implements.

*Purchase:* Ceremonial praying costume of Tibetan Lama, including robes, shoes, hats, etc.—Lebrang, Kansu Province, China.

GLADWIN, HAROLD S., Globe, Arizona: 29 pieces of pottery and about 50 potsherds—Arizona (exchange).

HARRIS, N. DWIGHT, Evanston, Illinois: 1 brass image and 1 carved wood image—China (gift).

JONES, MISS MARY I., Detroit, Michigan: 23 specimens of Chinese jewelry—Chekiang(?), China (gift).

MACKLIND, WILLIAM R., Cleveland, Ohio: 1 celt of granite (gift).

MARTIN, RICHARD A., Chicago: 275 potsherds representing all periods at site of Alishar Huyuk—Anatolia, Turkey (gift).

NEFF, W. P., Miami, Oklahoma: 1 "ceremonial" artifact of flint—Miami, Oklahoma (gift).

RIENDA, MRS. C. H., Oak Park, Illinois: 2 small horn spoons, 1 large horn spoon, 1 painted wooden spoon, 1 rattle, and 1 fishhook—southern Alaska (gift).

RUPPRECHT, MR. and MRS. PAUL, Chicago: 2 Afghan daggers—Khyber Pass, India (gift).

SARGENT, HOMER E., Pasadena, California: 15 baskets, Pomo, Maidu, Paiute, etc.; and 7 bags, Wasco or Nez Percé—California, Oregon, and Washington (gift).

SHOWER, MRS. ALBERT E., Evanston, Illinois: 1 Indian basket—United States (gift).

SMITH, RAYMOND K., Joliet, Illinois: 1 clay figurine and 1 small temple model of clay excavated in what is now an engine pit at Nonoalco shops of the National Railways of Mexico—Mexico City (gift).

SORENSEN, MRS. M. H., Chicago: 1 model of an Eskimo kayak (gift).

STRESEN-REUTER, ELIZABETH, Oak Park, Illinois: 1 Indian skull excavated near Gallup, New Mexico (gift).

THOMPSON, F. O., Des Moines, Iowa: 20 pairs of silver earrings—Toluca, Mexico (gift).

VINCENT, MRS. EDWARD E., Chicago: 93 objects of bone, wood, and stone—Greenland (gift).

WICKER, MISS CAROLINE M., Chicago: 8 turkish marionettes of colored rawhide figures for shadow-plays—Stamboul, Turkey (gift).

WICKER, MISS CAROLINE M., Chicago, and MRS. FRANCES RUGMAN, Essex, England: 1 model of bed, 1 tobacco pipe, and 1 small pottery dish—Khartum, Sudan, Africa (gift).

WOODRUFF, FREDERICK W., Joliet, Illinois: 1 pair of Eskimo boots—Bristol Bay, Alaska (gift).

## DEPARTMENT OF BOTANY—ACCESSIONS

ACUÑA G., JULIÁN, ESTACION EXPERIMENTAL AGRONÓMICO, Santiago de las Vegas, Cuba: 2 plant specimens (gift).

AELLEN, DR. PAUL, Basel, Switzerland: 348 specimens of Corsican and Syrian plants (exchange).

ARNOLD ARBORETUM, Jamaica Plain, Massachusetts: 357 specimens of Mexican plants (exchange).

ARSÈNE, REV. BROTHER G., Santa Fe, New Mexico: 1 plant specimen (gift).

BAILEY HORTORIUM, CORNELL UNIVERSITY, Ithaca, New York: 335 plant specimens (gift); 7 plant specimens (exchange).

BARKLEY, DR. FRED A., St. Louis, Missouri: 8 photographic prints (gift).

BARTRAM, EDWIN B., Bushkill, Pennsylvania: 6 specimens of Costa Rican plants (gift).

BAYALIS, JOHN, Chicago: 1 plant specimen (gift).

BENKE, HERMANN C., Chicago: 236 plant specimens (gift).

BLAIR, H. S., Puerto Armuelles, Panama: 1 plant specimen (gift).

BOBENG, W. G., Chicago: 1 plant specimen (gift).

BRASIL OITICICA S. A., Rio de Janeiro, Brazil: 39 specimens of Brazilian plants (gift).

BUTLER, MCCRILLIS, Chicago: 315 plant specimens (gift).

BUTLER UNIVERSITY, Indianapolis, Indiana: 243 plant specimens (exchange).

BYRNE, M. H., Chicago: 1 plant specimen (gift).

CABRERA, PROFESSOR ANGEL L., La Plata, Argentina: 14 plant specimens (gift); 112 plant specimens (exchange).

CALIFORNIA ACADEMY OF SCIENCES, San Francisco, California: 406 specimens of California plants (exchange).

CARLETON COLLEGE, DEPARTMENT OF BOTANY, Northfield, Minnesota: 134 specimens of Costa Rican plants (gift).

CARNEGIE INSTITUTION OF WASHINGTON, Cold Spring Harbor, Long Island, New York: 120 specimens of Yucatecan plants (gift).

CARNEGIE MUSEUM, Pittsburgh, Pennsylvania: 378 specimens of Utah plants (exchange).

CATHOLIC UNIVERSITY OF AMERICA, Washington, D.C.: 58 plant specimens, 6 photographic prints (exchange).

CHAMBERLAIN, DR. CHARLES J., Chicago: 3 plant specimens (gift).

CHAMBERS, MISS GLADYS M., Tougaloo, Mississippi: 2 plant specimens (gift).

CLOKEY, IRA W., South Pasadena, California: 277 specimens of California plants (exchange).

CONSERVATOIRE ET JARDIN BOTANQUES, Geneva, Switzerland: 1,837 plant specimens and photographic prints (exchange).

CORNELL UNIVERSITY, DEPARTMENT OF BOTANY, Ithaca, New York: 2,078 plant specimens (exchange).

CUFODONTIS, DR. GIORGI, Genoa, Italy: 21 specimens of Costa Rican plants (gift).

DAHLGREN, DR. B. E., Chicago: 1 plant specimen (gift).

DANFORTH, RALPH E., West Boylston, Massachusetts: 6 plant specimens (gift).

DASTON, JOSEPH S., Chicago: 24 specimens of cacti (gift).

DE PAUW UNIVERSITY, DEPARTMENT OF BOTANY, Greencastle, Indiana: 339 specimens of Montana plants (exchange).

DIXON, DR. HELEN, Chicago: 850 specimens of Utah plants (gift).

DOOLITTLE, MRS. HAROLD M., Okkama, Michigan: 2 plant specimens (gift).

DRUSHEL, DR. J. A., Westfield, New Jersey: 6 plant specimens (gift).

DUCKE, DR. ADOLPHO, Rio de Janeiro, Brazil: 550 specimens of Brazilian plants (gift).

EIFRIG, PROFESSOR G., River Forest, Illinois: 2 plant specimens (gift).

ELIAS, REV. BROTHER, Barranquilla, Colombia: 228 specimens of Colombian plants (gift).

ESTACION EXPERIMENTAL AGRONÓMICO, Santiago de las Vegas, Cuba: 45 specimens of Cuban plants (gift).

FENWICK, MISS UNA, Leicestershire, England: 50 plant specimens (gift).

FERNALD, MISS EVELYN I., Rockford, Illinois: 2 plant specimens (gift).

FIELD, DR. HENRY, Chicago: 35 specimens of English plants (gift).

FIELD MUSEUM OF NATURAL HISTORY: Collected by C. J. Albrecht (Field Museum Expedition to Pribilof Islands): 19 plant specimens.



Collected by Llewelyn Williams (Expedition to Southeastern Mexico): 5,000 herbarium specimens, 595 wood specimens, 105 economic specimens, 462 photographic negatives.

Made by J. Francis Macbride: 5,789 photographic negatives of type specimens of plants.

Transferred from the Division of Photography: 229 photographic prints.

*Purchases*: 1,850 specimens of plants—Mexico; 988 specimens of plants—Brazil; 65 specimens of plants—Peru; 150 specimens of plants—Venezuela.

FISHER, GEORGE L., Houston, Texas: 49 plant specimens (gift).

FLORISTS' PUBLISHING COMPANY, Chicago: 4 plant specimens (gift).

FOSBERG, DR. F. RAYMOND, Philadelphia, Pennsylvania: 550 specimens of Hawaiian plants (exchange).

FRASER, CARL C., Bradenton, Florida: 1 plant specimen (gift).

GARFIELD PARK CONSERVATORY, Chicago: 3 plant specimens (gift).

GARRETT, PROFESSOR ARTHUR O., Salt Lake City, Utah: 114 specimens of Utah plants (gift).

GENTRY, HOWARD SCOTT, Tucson, Arizona: 36 specimens of Mexican plants (gift).

GOSSELL, W. F., Chicago: 5 plant specimens (gift).

GÖTEBORG BOTANISKA TRÄDGÅRD, Göteborg, Sweden: 43 specimens of European plants (exchange).

GRAVES, C. E., Aracata, California: 9 photographic prints (gift).

GRAY HERBARIUM, Cambridge, Massachusetts: 412 plant specimens (exchange).

GREGG, CLIFFORD C., Chicago: 5 plant specimens (gift).

HAMMERMILL PAPER COMPANY, Erie, Pennsylvania: 4 specimens of paper pulp and stock (gift).

HARNSBERGER, MISS HAZEL, Chicago: 1 plant specimen (gift).

HARRISON, B. F., Provo, Utah: 11 plant specimens (gift).

HAYNES, MISS CAROLINE C., Highlands, New Jersey: 28 plant specimens (gift).

HERMANN, PROFESSOR F. J., Ann Arbor, Michigan: 182 plant specimens (exchange).

HEWETSON, WILLIAM T., Freeport, Illinois: 1 plant specimen (gift).

HILGEMAN, DR. ROBERT, Tucson, Arizona: 1 "arm" of dates (gift).

HOOD, PROFESSOR J. DOUGLAS, Rochester, New York: 28 specimens of Peruvian plants (gift).

INDUSTRIAL AND AGRICULTURAL MUSEUM, Warsaw, Poland: 4 specimens of grain (gift).

INSTITUTO DE BOTÁNICA DARWINION, San Isidro, Argentina: 204 specimens of plants from Argentina (exchange).

JARDIM BOTANICO, Rio de Janeiro, Brazil: 25 specimens of Brazilian plants (exchange).

JARDIM BOTANICO DE BELLO HORIZONTE, Minas Geraes, Brazil: 515 specimens of Brazilian plants (gift); 215 specimens of Brazilian plants (exchange).

JOHNSTON, DR. JOHN R., Chimaltenango, Guatemala: 567 specimens of Guatemalan plants (gift).

KLUG, GUILLERMO, Iquitos, Peru: 39 plant specimens (gift).

KNOBLOCH, IRVING W., Salamanca, New York: 53 specimens of Mexican plants (gift).

KRAUTH, EMIL, Hebron, North Dakota: 5 plant specimens (gift).

KRUKOFF, BORIS A., Bronx Park, New York: 667 specimens of Brazilian plants, 13 economic specimens, 1 stem of *Astrocaryum* (gift).

LABORATORIOS DEL MINISTERIO DE AGRICULTURA, San Salvador, Salvador: 41 plant specimens (gift).

LEAL, PROFESSOR ADRIÁN RUIZ, Mendoza, Argentina: 81 specimens of plants from Argentina (gift).

LE BARRON, S. M., New Orleans, Louisiana: 5 planks of Mexican woods (gift).

LEON, REV. BROTHER, Havana, Cuba: 14 plant specimens (gift).

LEWIS, MRS. GEORGE R., St. Louis, Missouri: 2 plant specimens (gift).

LILLY, ELI, AND COMPANY, Indianapolis, Indiana: 1 economic specimen (gift).

LUMMIS, MRS. NELLIE S., Fort Myers, Florida: 1 plant specimen (gift).

MARCELLINE, SISTER M., Grand Rapids, Michigan: 438 specimens of New Mexico plants (gift).

MARSH, ERNEST G., JR., Marathon, Texas: 165 specimens of Texas plants (gift).

MARSHALL COLLEGE, Huntington, West Virginia: 106 specimens of West Virginia plants (exchange).

MATUDA, EIZI, Escuintla, Chiapas, Mexico: 1 plant specimen (gift).

MEXIA, MRS. YNES, Berkeley, California: 19 specimens of Brazilian plants (gift).

MEYER, TEODORO, Fontana, Chaco, Argentina: 24 specimens of Argentinean plants (exchange).

MILLE, REV. LUIS, Guayaquil, Ecuador: 28 specimens of Ecuador plants (gift).

MISSOURI BOTANICAL GARDEN, St. Louis, Missouri: 227 plant specimens (exchange).

MOORE, GEORGE, Lebanon, Missouri: 357 specimens of Missouri plants (gift).

MUSEO NACIONAL, San José, Costa Rica: 1,085 specimens of Costa Rican plants (gift).

MUSEU PARAENSE EMILIO GOELDI, Belem, Brazil: 325 plant specimens (exchange).

MUSÉUM D'HISTOIRE NATURELLE (PHANÉROGAMIE), Paris, France: 665 plant specimens (exchange).

MUZEU TATRZANSKIE, Zakopane, Poland: 75 specimens of Polish plants (gift).

NÁRODNÍ MUSEUM, Prague, Czechoslovakia: 521 plant specimens (exchange).

NATIONAL HERBARIUM, Sydney, Australia: 100 specimens of Australian plants (exchange).

NATURHISTORISCHES MUSEUM, BOTANISCHE ABTEILUNG, Vienna, Austria: 1 specimen of *Picea* wood (gift); 4,709 plant specimens (exchange).

NATURHISTORISKA RIKSMUSEET, Stockholm, Sweden: 116 plant specimens (exchange).

NEW YORK BOTANICAL GARDEN, Bronx Park, New York: 82 plant

specimens, 25 photographic prints (exchange).

NOÉ, PROFESSOR A. C., Chicago: 1 economic specimen (gift).

NORTH DAKOTA AGRICULTURAL COLLEGE, Fargo, North Dakota: 360 plant specimens (exchange).

OAKES, O. A., Evanston, Illinois: 4 planks of New Zealand woods (gift).

OWEN, ALLEN F., Chicago: 4 herbarium specimens, 5 wood specimens (gift).

PATTERSON, ARTHUR E., East Gary, Indiana: 5 plant specimens (gift).

PEARSALL, GORDON, River Forest, Illinois: 13 plant specimens (gift).

PEARSON, E. C., Las Cruces, New Mexico: 1 plant specimen (gift).

PURPUS, DR. C. A., Zacuapam, Mexico: 1 plant specimen (gift).

RECHENBERG, MISS ELIZABETH, Valparaiso, Indiana: 1 economic specimen (gift).

ROBINSON, MRS. JEANETTE B., Milwaukee, Wisconsin: 1 plant specimen (gift).

ROSENGURTT, PROFESSOR BERNARDO, Montevideo, Uruguay: 63 specimens of plants from Uruguay (gift).

SCHMOLL, DR. HAZEL, Chicago: 16 plant specimens (gift).

SEIBERT, R. J., St. Louis, Missouri: 3 plant specimens (gift).

SHERFF, DR. EARL E., Chicago: 566 specimens of plants (gift).

SHINER, MRS. MARGARET J., Laredo, Texas: 5 photographic prints (gift).

SHREVE, DR. FORREST, Tucson, Arizona: 136 plant specimens (gift); 80 plant specimens (exchange).

SOUKUP, PROFESSOR J., Puno, Peru: 184 herbarium specimens, 1 economic specimen (gift).

STANDLEY, PAUL C., Chicago: 128 specimens of plants, 127 illustrations of plants (gift).

STANDLEY, PAUL C., and DR. JULIAN A. STEYERMARK, Chicago: 100 specimens of Indiana plants (gift).

STATE UNIVERSITY OF IOWA, DEPARTMENT OF GEOLOGY, Iowa City, Iowa: 1 fossil cycad trunk (gift).

STEYERMARK, DR. JULIAN A., Chicago: 4,078 plant specimens (gift).

STEYERMARK, MRS. JULIAN A., Chicago: 149 plant specimens (gift).

SYDOW, DR. H., Berlin, Germany: 1 plant specimen (gift).

TAIHOKU IMPERIAL UNIVERSITY, Taihoku, Formosa: 150 specimens of Formosa plants (exchange).

TEIXEIRA, M. A. DE PIMENTAL, Mossamedes, Angola: 1 plant specimen, 1 photographic print (gift).

THOMPSON, FRED O., Des Moines, Iowa: 1 string of *Sapindus* seeds (gift).

UNITED STATES NATIONAL MUSEUM, Washington, D.C.: 243 plant specimens, 425 photographic prints, 4,113 typewritten descriptions of new species of plants (exchange).

UNIVERSITY OF ARKANSAS, DEPARTMENT OF BOTANY, Fayetteville, Arkansas: 11 plant specimens (gift).

UNIVERSITY OF CALIFORNIA AT LOS ANGELES, DEPARTMENT OF BOTANY, Los Angeles, California: 39 plant specimens (exchange).

UNIVERSITY OF FLORIDA, AGRICULTURAL EXPERIMENT STATIONS, Gainesville, Florida: 17 plant specimens (gift).

UNIVERSITY OF GEORGIA, DEPARTMENT OF BOTANY, Athens, Georgia: 67 plant specimens (exchange).

UNIVERSITY OF MICHIGAN, UNIVERSITY MUSEUMS, Ann Arbor, Michigan: 587 plant specimens (exchange).

UNIVERSITY OF MINNESOTA, DEPARTMENT OF BOTANY, Minneapolis, Minnesota: 75 plant specimens (gift); 851 plant specimens (exchange).

UNIVERSITY OF MONTREAL, Montreal, Canada: 627 specimens of Canadian plants (exchange).

UNIVERSITY OF PENNSYLVANIA, BOTANICAL LABORATORY, Philadelphia, Pennsylvania: 140 plant specimens (exchange).

UNIVERSITY OF TEXAS, DEPARTMENT OF BOTANY, Austin, Texas: 1,431 plant specimens (gift).

UTAH STATE AGRICULTURAL COLLEGE, Logan, Utah: 52 specimens of Utah plants (exchange).

VALERIO, PROFESSOR MANUEL, San José, Costa Rica: 237 specimens of Costa Rican plants (gift).

VARGAS C., DR. CÉSAR, Cuzco, Peru: 219 specimens of Peruvian plants (gift).

VAUGHAN'S SEED STORE, Chicago: 1 plant specimen (gift).

VINCENT, MISS EDITH M., Chicago: 1 plant specimen (gift).

WEYMARN, MICHAEL A., Harbin, Manchukuo: 5 plant specimens (gift).

WHEELER, LOUIS C., Cambridge, Massachusetts: 4 plant specimens (gift).

WITTE MEMORIAL MUSEUM, San Antonio, Texas: 11 plant specimens (gift).

WOLCOTT, A. B., Chicago: 1 plant specimen (gift).

YALE UNIVERSITY, SCHOOL OF FORESTRY, New Haven, Connecticut: 258 specimens of plants (gift); 25 microscopic slides of Peruvian woods (exchange).

YUNCKER, PROFESSOR T. G., Greencastle, Indiana: 218 specimens of Honduras plants (gift).

ZETEK, JAMES, Balboa, Canal Zone: 25 plant specimens (gift).

ZIGMOND, DR. MAURICE L., New Haven, Connecticut: 195 specimens of California plants (gift).

#### DEPARTMENT OF GEOLOGY—ACCESSIONS

AMERICAN MUSEUM OF NATURAL HISTORY, New York: cast of jaws of *Dryopithecus caulleyi* (gift); cast of skeleton of fossil bird, *Diatryma*; cast of lower jaw of holotype of *Griphodon*; 31 specimens fossil plants—Montana, Arizona, and Cuba (exchange).

BILSKY, A. M., Toronto, Canada: 4 specimens gold ore—Porcupine, Ontario (gift).

BREN, REV. DR. HUGO, Lemont, Illinois: 1 specimen *Orthoceras annulatum* showing siphuncle (gift).

CALHOUN, G. B., Chicago: 1 specimen chalcedony pseudomorph after root—Cody, Wyoming (gift).

CALLAHAN, WILLIAM, Aurora, Kansas: 1 plesiosaur vertebra, 2 gizzard stones—Aurora, Kansas (gift).



CALVERT, EARL L., San Gabriel, California: 1 specimen bakerite—Death Valley, California (exchange).

CANNON, LLOYD, Olmsted, Illinois: 1 concretion—Olmsted, Illinois (gift).

CHALMERS, MRS. WILLIAM J., Chicago: 1 cabochon cut star sapphire mounted in white gold ring—Ceylon (gift).

CHICAGO HISTORICAL SOCIETY, Chicago: 3 geological specimens—South Dakota and England (gift).

COLE, E. M., Audubon, Iowa: 1 specimen *Annularia*—near Audubon, Iowa (gift).

CONROW, J. ATKINSON, Baltimore, Maryland: 12 specimens fossil shells and marls—Fossil Cliffs, Maryland (gift).

DARRAGH, MR. and MRS. ALEXANDER L. H., Chicago: 1 chert concretion—Ozark County, Missouri (gift).

DEARDORFF, MISS HAZEL, Silt, Colorado: 3 vertebrate fossils—Colorado (gift).

EDGERLY, HATTON, De Beque, Colorado: 3 vertebrate fossils—Colorado (gift).

EHRMANN, MARTIN L., New York: 6 specimens minerals—various localities (exchange).

FABER, EDWIN B., Grand Junction, Colorado: 2 vertebrate fossils—Colorado (gift).

FIELD MUSEUM OF NATURAL HISTORY:

Collected by Dr. Henry Field (Field Museum—Oxford University Joint Expedition to Mesopotamia): 1 specimen Kish, Iraq.

Collected by Dr. Henry Field (Field Museum Archaeological Expedition to Western Europe): 1 specimen cave earth—Dordogne, France.

Collected by C. L. Owen (Field Museum Expedition of 1911): 2 specimens alunogen—Arizona.

Collected by Bryan Patterson and James H. Quinn (Field Museum Paleontological Expedition to Colorado, 1937): 97 specimens fossil leaves and gastropods, 237 vertebrate fossils—Colorado.

Collected by Sharat K. Roy (Field Museum Geological Expedition to Colorado, 1937): 82 geological specimens, 22 minerals—Colorado.

Collected by Emil Sella: 1 specimen quartzite—Lookout Mountain, Nebraska.

Collected by Alfred C. Weed (Field Museum Expedition to Maine): 4 specimens talc, 1 specimen serpentine—Loomis Talc Quarry, New York; 1 specimen sandstone changing to schist—Lamoine, Maine.

Purchase: 1 specimen hyalite—Spruce Pine, North Carolina.

FLESCHE, WALTER J., Chicago: 1 specimen astrophyllite in quartz—locality unknown (gift).

GALBREATH, EDWIN C., Ashmore, Illinois: tibia and fibula of *Castoroides*, dorsal vertebra of *Oribovinae*—near Ashmore, Illinois (gift).

GERRITSON, JAMES ANTHONY, Kankakee, Illinois: 2 specimens cephalopods—near Kremmlin, Colorado (gift).

GRUHLKE, RAY C., Olympia, Washington: 1 specimen fossiliferous limestone—Oakville, Washington; 1 fossil gastropod—near Olympia, Washington (gift).

GUNNELL, E. MITCHELL, Galesburg, Illinois: 11 specimens minerals—various localities (exchange).

HARRIS, G. BRADLEY and WILLIAM B. HILTON, Rifle, Colorado: 5 vertebrate fossils and lot of fossil leaves—Colorado (gift).

HARRIS, JULIA, Palisade, Colorado: 1 fossil leaf—Plateau Canyon, Colorado (gift).

HARVARD UNIVERSITY, BOTANICAL MUSEUM, Cambridge, Massachusetts: 3 specimens fossil plants—various localities (exchange).

HELWIG, A. C., Keokuk, Iowa: 1 fossil coral—Keokuk, Iowa (gift).

HILTON, OLIVER, Rifle, Colorado: 1 specimen *Coryphodon*—Colorado (gift).

INDUSTRIAL AND AGRICULTURAL MUSEUM, Warsaw, Poland: 23 specimens economic minerals—Poland; 1 specimen aerolite—Pultusk, Poland (gift).

ITO, TOKUMATSU, Chicago: 20 specimens—Fushun coal mines, Manchukuo (gift).

JENNINGS, J. W., Eureka Springs, Arkansas: 1 specimen calcite concretions in Mexican onyx, 1 specimen Mexican onyx, 1 specimen sandstone, 1 specimen laterite, 2 specimens whetstones—Eureka Springs, Arkansas (gift).

KAEMPFFER, MYRON A., Denver, Colorado: 1 lower molar *Phenacodus*—Colorado (gift).

LEVIN AND RUBIN, Chicago: 1 specimen barite—near Birmingham, Alabama (gift).

LOFQUIST, K. E., Chicago: 1 specimen fossil frond, 1 fossil crustacean—Coal City, Illinois (gift).

LOOK, ALFRED A., Grand Junction, Colorado: 2 specimens *Titanoides*(?)—near De Beque, Colorado; 1 fossil *Titanoides* skull—Colorado (gift).

MATTHEWS, W. E., West Terre Haute, Indiana: 1 septarium—Terre Haute, Indiana (gift).

MAZUR, ANTHONY, Chicago: 9 specimens invertebrate fossils, 4 specimens cave incrustations, 1 specimen styolites, 1 specimen quartz porphyry, 5 picture post cards—near Krakow, Poland (gift).

MCCAW, F. W., Manila, Philippine Islands: 3 specimens rizalite—Philippine Islands (gift).

MCGREW, PAUL O., Chicago: lower jaws of *Mesohippus bairdii*—Lower Brule Beds, Nebraska (gift).

MOONEY, HOMER, Carson City, Nevada: 2 fragments of teeth of *Arkadiskon* sp.—Nevada (gift).

MORRISON, MORRIS G., Evanston, Illinois: 1 specimen halite, 1 specimen halite stalactite—Jeban Usdum, Palestine (gift).

MUMBRUE, DAN P., Helena, Montana: 18 specimens concretions and concretionary coloring—Montana (gift).

NININGER, PROFESSOR H. H., Denver, Colorado: 1 stone meteorite—Lake Labyrinth, South Australia (gift); 14 specimens meteorites—various localities (exchange).

OGDEN, DR. BURT, Phoenix, Arizona: 2 specimens lazulite—California (gift).

ORR, GAIL, Winterset, Iowa: 6 vertebrate fossils—Colorado (gift).

PRINCETON UNIVERSITY, Princeton, New Jersey: 24 specimens Cambrian trilobites—Fruitville, Pennsylvania (exchange).

PRUITT, S. W., Niles, Michigan: 1 specimen copper ore—Clay County, North Carolina (gift).

QUINN, JAMES H., Chicago: 5 vertebrate fossils—near Ainsworth, Nebraska (gift).

RASSWEILER, AUGUST, Chicago: 1 cabochon cut green aventurine—Madras, India (gift).

REAGAN, FRANK P., Chicago: 21 specimens copper ore—Pennsylvania and Utah; 1 fossil leaf—Pennsylvania (gift).

REMBOLD, ELMER L., Chicago: 1 geode—near Lexington, Kentucky (gift).

ROBERTS, L. B., Batesville, Arkansas: 5 specimens fossil wood—Shreveport, Louisiana (gift).

RUMELY, WILLIAM N., ESTATE OF, Chicago: 1 iron meteorite—La Porte, Indiana (gift).

SCHIEFER, H. V., Cleveland Heights, Ohio: 9 cabochon cut chalcedony specimens—Flint Ridge, Ohio (gift).

SETTERLE, A. F., Cicero, Illinois: 1 septarium—near San Antonio, Texas (gift).

SIMMONS, MISS MARGUERITE, Chicago: 106 mineral specimens, 35 mineral chips—various localities (gift).

SOVEY, ROBERT R., Chicago: 1 specimen stigmara—Illinois (gift).

STANDARD OIL COMPANY (Indiana), Chicago: 15 specimens petroleum products, 1 specimen candle (gift).

STERNBERG, GEORGE F., Hays, Kansas: 4 vertebrate fossils, 2 fossil shells—Wyoming (exchange).

STEWART, R. H., Ironton, Ohio: 1 specimen *Lepidodendron*—Montgomery, West Virginia (gift).

TOKUNO, HARUYOSHI, New York: 1 hand-carved Daruma Buddha of jet—Fushun mines, Manchukuo (gift).

VON DRASEK, FRANK, Cicero, Illinois: 42 specimens minerals and ores—various localities (gift).

VON RAPPAPOORT, JEROME, Chicago: 248 opals—Australia (gift).

VONSEN, M., Petaluma, California: 2 specimens bakerite—Corkscrew Canyon, California (gift).

WEYMARN, MICHAEL A., Harbin, Manchukuo: 19 specimens vertebrate fossils—Manchukuo (gift).

WHARTON, G. W., Roseburg, Oregon: 1 fossil plant in shale—Buck Mountain, Oregon (gift).

WHARTON, J. R., Roseburg, Oregon: 1 specimen bird's-eye quartz, 1 specimen orbicular quartz—Oregon (gift).

WOODSON, MISS NANCY, Wausau, Wisconsin: 1 specimen limestone—Switzerland (gift).

YOUNG, MRS. DOROTHY, South Haven, Michigan: 4 specimens limonite geodes—South Haven, Michigan (gift).

ZERK, OSCAR U., Chicago: 1 specimen scenery agate—Glendive, Montana (gift); 17 specimens scenery agate—various localities (exchange).

## DEPARTMENT OF ZOOLOGY—ACCESSIONS

ACKERMAN, C. N., Chicago: 1 bryozoan—Grass Lake, Illinois (gift).

ALLEN, E. ROSS, Silver Springs, Florida: 2 bullfrogs—Silver Springs, Florida; 1 jumping viper—Honduras; 3 tadpoles, 1 tree frog, 7 lizards, 1 snake—various localities (gift).

ALLEN, ROBERT J., Oak Park, Illinois: 3 bats—Cook County, Illinois (gift).

ANDREWS, E. WYLLYS, Chicago: 7 mammals, 55 frogs, 85 lizards, 34 snakes, 6 turtles—Yucatan (gift).

ANONYMOUS: 1 mounted hummingbird—Peru (gift).

BACKHUS, CHARLES H., Bellwood, Illinois: 1 spider with young—Bellwood, Illinois (gift).

BARBER, C. M., Hot Springs, Arkansas: 31 salamanders, 1 toad, 3 lizards, 8 box turtles—Arkansas (gift).

BARNES, DR. VENTURA, Maracay, Venezuela: 1 frog—Turmero, Venezuela (gift); 21 fishes—Turmero, Venezuela (exchange).

BARR, LYMAN, Chicago: 1 tarantula—Arkansas (gift).

BASS BIOLOGICAL LABORATORY, Englewood, Florida: 83 eels—Florida (gift).

BAUER, MARGARET J., Chicago: 1 snapping turtle—Kankakee River, Illinois (gift).

BAUMANN, DR. CYRIL VON, New York: 4 bat skins with skulls, 75 insects—Ecuador (gift).

BECKER, ROBERT H., Lake Bluff, Illinois: 1 fish—Lake Forest, Illinois; 1 lake trout—Ontario, Canada (gift).

BEECHER, WILLIAM J., Chicago: 1 red bat, 1 snake—Fox Lake, Illinois (gift).

BOOTH FISHERIES CORPORATION, Boston, Massachusetts: 7 rosefish—New England coast (gift).

BORELL, DR. A. E., Santa Fe, New Mexico: 1 *Bassariscus* skeleton, 7 lizards, 5 snakes—Brewster County, Texas (gift).

BOULTON, MRS. RUDYERD, Chicago: 1 bird—Chicago (gift).

BRITISH MUSEUM (NATURAL HISTORY), London, England: 63 small mammal skins and skulls—South America; 17 lizards—British Somaliland (exchange).

BROMUND, FRED, Ann Arbor, Michigan: 1 milk snake—Burt's Lake, Michigan (gift).

BRUNDAGE, EDWARD J., Washington, Connecticut: 447 insects, 8 crustaceans—various localities (gift).

BUJAK, B. J., Lansing, Michigan: 1 otter and 6 beaver skeletons—Michigan (gift).

BURT, DR. CHARLES E., Winfield, Kansas: 35 bats in alcohol, 150 salamanders, 429 tadpoles, 284 frogs and toads, 71 lizards, 81 snakes, 16 turtles—various localities (exchange).

CAGLE, FRED, Carbondale, Illinois: 5 frogs—Murphysboro, Illinois (exchange).

CAMPBELL, WALLACE, Chicago: 5 snakes—Lambert, Illinois.

CAMRAS, SIDNEY, Chicago: 1 bald eagle skeleton—Cass County, Illinois (gift).

CARNEGIE MUSEUM, Pittsburgh, Pennsylvania: 15 mammals, 36 birds—Central and South America; 5 lizards, 2 snakes—Cameroon, Africa (exchange).

CASCARD, BEN, Chicago: 3 birds—Gary, Indiana (gift).

CASTANG, R., Chicago: 1 chimpanzee skeleton (gift).

CHANCELLOR, PHILIP M., Hollywood, California: 3 natural color bird photographs (gift).



CHICAGO ZOOLOGICAL SOCIETY, Brookfield, Illinois: 32 mammals, 149 birds, 8 lizards, 27 snakes, 1 turtle—various localities (gift).

CHILDS, MRS. GEORGE W., Highland Park, Illinois: 1 butterfly—Ceylon (gift).

CHUTE, WALTER H., Chicago: 10 lizards—Bahama Islands (gift).

CLARK, PAUL, Homewood, Illinois: 1 broad-winged hawk—Homewood, Illinois (gift).

CLAWSON, DR. M. DON, Beirut, Syria: 1 spur-winged plover (gift).

COLORADO MUSEUM OF NATURAL HISTORY, Denver, Colorado: 6 pika skins and 4 skulls—Colorado (gift).

CONANT, ROGER, Philadelphia, Pennsylvania: 12 water snakes—Lake Erie (exchange).

CONOVER, BOARDMAN, Chicago: 5 bird skins, 34 tinamou eggs—various localities (gift).

CRAIG, CAPTAIN JOHN D., Chicago: 2 clips of motion picture film of whale shark (gift).

CROSS, DR. J. C., Kingsville, Texas: 1 indigo snake—Kingsville, Texas (gift).

CUMMING, ALASTAIR GORDON, Blairs House, Altyre, Forres, Scotland: 1 peregrine falcon skin, 16 red grouse skins—Scotland (gift).

CURTIS, MISS ELIZABETH L., Seattle, Washington: 5 bird skeletons—Washington (gift).

DAVIS, C. E., Homewood, Illinois: 2 snakes—Lemont, Illinois (gift).

DAVIS, D. DWIGHT, Naperville, Illinois: 1 salamander, 8 snakes—Illinois (gift).

DEMARAY, DR. A. E., Washington, D.C.: 13 lizards, 14 snakes—Brewster County, Texas (gift).

DEMEL, DR. KAZIMIERZ, Hel, Poland: 21 crustaceans—Baltic Sea, Poland (gift).

DERONIYAGALA, P. E. P., Colombo, Ceylon: 9 snakes—Ceylon (gift).

DLUHY, EUGENE, Chicago: 1 beetle—Tennessee (gift).

DUBISCH, ROY, Chicago: 1 blue racer—Illinois (gift).

DUBOIS, ERNEST, Chicago: 1 frog—Illinois (gift).

DYBAS, HENRY, Chicago: 1 Fowler's toad, 80 insects—various localities (gift).

EMERSON, DR. ALFRED E., Chicago: 1 five-lined skink, 6 scorpions, spiders and millipedes—various localities (gift).

ERKER, JOHN, Chicago: 1 lynx skull—California (gift).

FIELD, DR. HENRY, Chicago: 14 mammals, 24 mammal skulls, 148 fishes, 1,587 insects, 163 scorpions and allies—Iraq; 11 mammals, 76 salamanders and larvae, 77 frogs and tadpoles, 5 snakes, 160 fishes—England; 6 marine fishes, 1 marine worm—Scotland (gift).

#### FIELD MUSEUM OF NATURAL HISTORY:

Collected by C. J. Albrecht (Field Museum Expedition to Pribilof Islands): 41 fur seals, 38 bird skins—Pribilof Islands.

Collected by E. R. Blake (Field Museum Expedition to British Guiana): 314 mammals, 746 bird skins, 28 birds in alcohol, 54 bird skeletons, 16 bird eggs, 131 frogs and toads, 105 lizards, 41 snakes, 6 turtles, 19 caimans, 668 fishes, 30 crustaceans—British Guiana.

Collected by Rudyerd and Laura Boulton (Straus West African Expedition): 931 insects—Nigeria, Africa.

Collected by A. Mazur: 1 wild boar skin and skull, 1 chamois skin and skeleton—Poland.

Collected by W. H. Osgood (Field Museum Expedition to Indo-China): 258 mammal skins and skulls, 25 mammal skins and skeletons, 62 mammals in alcohol, 49 bird skins, 1 set birds' eggs, 1 lot of bird group accessories, 18 frogs and toads, 52 lizards, 18 snakes, 50 fishes—French Indo-China.

Collected by Bryan Patterson and James J. Quinn (Field Museum Paleontological Expedition to Colorado, 1937): 19 mammal skeletons, 3 mammal skulls, 2 bats in alcohol, 36 bird skeletons, 2 lizards, 6 snakes, 1 frog skeleton, 1 lizard skeleton, 647 insects—Nebraska and Colorado.

Collected by Karl P. Schmidt, Leon L. Walters, and A. E. Borell (Field Museum Expedition to the Southwest): 14 bats in alcohol, 3 rodent skeletons, 2 hawk skins, 4 salamanders, 70 frogs and toads, 147 lizards, 45 snakes, 4 turtles, 17 molds, 8 boxes of accessory material, 6 fishes, 182 insects and allies, 1 crustacean—various localities.

Collected by Karl P. Schmidt and D. Dwight Davis (Field Museum Expedition to Texas): 58 mammal skins and skulls, 4 mammal skins and skeletons, 15 mammal skulls and skeletons, 14 bats in alcohol, 9 bird skeletons, 89 frogs, 89 lizards, 16 snakes, 1 turtle, 152 fishes, 149 insects and allies, 1 snail—Texas.

Collected by Alfred C. Weed and Leon L. Pray (Field Museum Expedition to Maine): 319 fishes, 200 lower invertebrates—Frenchman's Bay, Maine.

Transferred from Department of N. W. Harris Public School Extension: 4 bird skins—Chicago region (exchange).

*Purchases:* 1 dwarf squirrel skin and skeleton, 1 red forest hog skin and skull—Cameroon, Africa; 191 birdskins—Angola, Africa (Emily Crane Chadbourne Fund); 1 lizard, 7 snakes—Colombia; 4 mammalskins and skulls, 1 mounted porcupine, 1 tapir skull, 8 vampire bats, 266 bird skins, 200 frogs, 28 snakes, 47 lizards—Ecuador; 1 mud snake, 7 terrapins—Florida; 2 snakes—San Pedro, Honduras; 1 Himalayan wild dog—India; 25 small mammals—Japan and Philippine Islands; 18 mammal skins and skulls—Manchukuo; 1 red wolf skin and skull—Paraguay; 9 mammal skins and skulls, 5 mammal skins and skeletons, 49 bird skins, 10 frogs, 3 lizards, 2 snakes—Tanganyika Territory; 484 skins of birds of prey, 25 other bird skins—various localities (Leslie Wheeler Fund); 5 tiger salamanders, 82 lizards, 19 snakes—various localities; 2 bird skins—Venezuela; 49 bats in alcohol—West Indies.

FRALEY, MORRILL, Naperville, Illinois: 1 spider—Naperville, Illinois (gift).

FRANZEN, ALBERT J., Chicago: 4 bird skeletons (gift).

FRIESSER, JULIUS, Chicago: 1 grizzly bear skull—British Columbia (gift).

FULMER, MRS. P. F., Aurora, Illinois: 1 flying squirrel—Illinois (gift).

GALBREATH, EDWIN C., Ashmore, Illinois: 1 pocket gopher skeleton, 4 fence lizards—San Diego, California (gift).

GAYLE, MRS. R. G., Rockford, Illinois: 1 spider—Rockford, Illinois (gift).

GENERAL BIOLOGICAL SUPPLY HOUSE, Chicago: 2 conger eels—Florida; 1 beetle—Louisiana (gift).

GLATZ, EDWARD, Chicago: 1 camel cricket—Chicago (gift).

GRANT, GORDON, Los Angeles, California: 9 tree frogs, 389 insects—Los Angeles, California (gift).

GREGG, CLIFFORD C., Chicago: 31 insects—western United States (gift).

GUERNSEY, GUY, South Haven, Michigan: 1 golden-crowned kinglet—Michigan (gift).

HAAS, DR. GEORGE, Jerusalem, Palestine: 5 lizards, 5 snakes—Palestine (gift); 2 chameleons—Jerusalem, Palestine (exchange).

HALLS, J. C. and A. L. HOPKINS, Chicago: 3 bear skulls—Alaska (gift).

HARRISON, WILLIAM, Highland Park, Illinois: 1 red-tailed hawk—Highland Park, Illinois (gift).

HARTELIUS, BERTIL, Homewood, Illinois: 335 insects—Arkansas and Texas (gift).

HAYES, DR. HAROLD A., Hubbard Woods, Illinois: 1 flying squirrel—Hubbard Woods, Illinois (gift).

HERSHAW, GEORGE, Elgin, Illinois: 1 American bittern—Elgin, Illinois (gift).

HIGGINBOTHAM, A. C., Evanston, Illinois: 8 snakes—Evanston, Illinois (gift).

JENNINGS, JOHN F., Chicago: 9 mammal skulls—Matto Grosso, Brazil (gift).

JONES, MRS. G., Lake Forest, Illinois: 1 ovenbird—Lake Forest, Illinois (gift).

KAEMPFER, KARL, Bridgeport, Nebraska: 5 snakes, 1 turtle—Bridgeport, Nebraska; 72 insects—Garfield County, Colorado (gift).

KING, J. ANDREWS, Lake Forest, Illinois: 10 bird skins—Chile (gift).

KRAUSE, MISS ADELINE ROSE, Chicago: 1 hornless cow skull (gift).

KURODA, DR. NAGAMICHI, Akasaka, Tokyo, Japan: 15 bat skins with skulls—Japan, Korea, and Formosa (exchange).

LAYBOURNE, EDGAR G., Homewood, Illinois: 1 green snake—Thornton, Indiana (gift).

LERNER, MICHAEL, New York: 1 blue marlin of record size—Bahama Islands (gift).

LETL, FRANK, Chicago: 1 mocking-bird skin—Sublette, Illinois (gift).

LINCOLN AVENUE SCHOOL, Highland Park, Illinois: 5 birds—Highland Park, Illinois (gift).

LINCOLN PARK ZOO, Chicago: 1 chimpanzee, 1 mandrill, 2 toads and frogs, 12 lizards, 27 snakes, 1 turtle—various localities (gift).

LINDAHL, J. C., Hot Springs, Arkansas: 1 salamander—Hot Springs, Arkansas (gift).

LINKELMAN, MRS. MARY, Chicago: 1 spider—Chicago (gift).

MANDEL, LEON, Chicago: 18 bird skins, 17 bird skeletons, 11 birds in alcohol, 1 tree frog, 1 iguana, 7 fishes, 195 invertebrates—West Indies (gift).

MARIA, BROTHER NICEFORO, Bogotá, Colombia: 7 snakes, 1 caiman—Colombia (gift).

MARTIN, DR. PAUL S., Chicago: 1 pair mule deer horns—Colorado (gift).

MCCLURE, H. ELLIOTT, Peru, Illinois: 6 northern wood-frogs—Manitoba, Canada (exchange).

MCNEIL, HENRY F., Chicago: 1 red bat—Chicago (gift).

MILLER, FRANK, Delavan, Wisconsin: 1 gray fox skeleton—Delavan, Wisconsin (gift).

MOONEY, JAMES J., Highland Park, Illinois: 1 weasel, 1 snake—Lake County, Illinois (gift).

MOYER, JOHN W., Chicago: 1 arctic horned owl—Minnesota (gift).

MUSEUM OF COMPARATIVE ZOOLOGY, Cambridge, Massachusetts: 23 bats, 13 frogs—various localities (exchange).

NATURHISTORISCHES MUSEUM, Basel, Switzerland: 2 salamanders, 18 frogs, 13 lizards, 1 snake—various localities (exchange).

NORRIS, PROFESSOR H. W., Grinnell, Iowa: 1 frilled shark (gift).

O'BYRNE, ERNEST, Greeley, Colorado: 1 garter snake—Colorado (gift).

PARK, ANDREW R., Evanston, Illinois: 10 parasitic wasps—various localities (gift).

PARK, DR. ORLANDO, Evanston, Illinois: 1 beetle—Palos Park, Illinois (gift).

PEARSON, DR. J. F. W., Coral Gables, Florida: 22 bats in alcohol—Bahama Islands (gift).

PFLUEGER, AL, Miami, Florida: 11 birds—Bahama Islands (gift).

PHILIPPI, R. A., Santiago, Chile: 5 bird skins—Chile (exchange).

PLATH, KARL, Chicago: 1 king rail—Fox Lake, Illinois (gift).

POLISH AMERICAN CHAMBER OF COMMERCE, Warsaw, Poland: 5 white stork skins, 1 white stork nest and accessories, 8 magpies—Poland; 1 crane skin (gift).

PRAY, LEON L., Homewood, Illinois: 1 moth—Homewood, Illinois (gift).

RICHTER, LEWIS E., Shumway, Illinois: 1 pseudoscorpion—Shumway, Illinois (gift).

ROSENBERG, W. F. H., Edgware, Middlesex, England: 25 bird skins—various localities (exchange).

RUECKERT, ARTHUR G., Chicago: 1 pileated woodpecker, 2 bird skeletons, 1 water moccasin—Florida (gift).

RYCKMAN, MRS. LAURA H., Kirkland, Washington: 1 skeleton of mountain beaver—Kirkland, Washington (gift).

SANBORN, COLIN C., Highland Park, Illinois: 1 snake—Highland Park, Illinois (gift).

SCHMIDT, JOHN M., Homewood, Illinois: 1 short-tailed shrew, 2 water snakes—Illinois (gift).

SCHMIDT, KARL P., Homewood, Illinois: 54 small mammal skins with 53 skulls—various localities; 2 bird skulls—New Guinea; 2 cicadas—Homewood, Illinois (gift).

SHEDD AQUARIUM, JOHN G., Chicago: 364 fishes—various localities (gift).

SHERWOOD PETROLEUM COMPANY, Brooklyn, New York: 8 roaches—Brooklyn, New York (gift).

SIVER, MRS. C., Chicago: 1 bird—Chicago (gift).

SLATER, J. R., Tacoma, Washington: 7 salamanders, 6 frogs—Oregon and Washington (gift).

SMITH, REV. FATHER CECIL A., Latrobe, Pennsylvania: 28 salamanders, 4 frogs, 8 snakes, 1 turtle—Pennsylvania (exchange).



SMITH, MRS. HERMON DUNLOP, Lake Forest, Illinois: 1 rough-legged hawk—Phoenix, Arizona; 1 barn-owl skin—Lake Forest, Illinois; 1 massasauga—Lake County, Illinois (gift).

SMITH, TARLETON, Waco, Texas: 3 fishes—Brewster County, Texas (gift).

SNYDER, DR. L. H., Seoul, Korea: 6 bat skins—Korea; 131 butterflies—Quelpart Island (exchange).

SODY, DR. H. J. V., Buitenzorg, Java: 109 mammal skins with skulls—Dutch East Indies (exchange).

STACJA MORSKA (MARINE STATION), Hel, Poland: 240 fishes—Hel, Poland (gift).

STEWART, SPENCER W. and ROBERT J. SYKES, New York: 21 photographs of whale shark (gift); 1 young whale shark skin—Acapulco, Mexico (gift).

STEYERMARK, DR. JULIAN A., Chicago: 1 grasshopper—Callaway County, Missouri (gift).

SWEET, SYDNEY, Bridgeport, Nebraska: 1 beaver skull—Bridgeport, Nebraska (gift).

TALLANT, W. M., Manatee, Florida: 1 duck skin—Florida (gift).

TANNER, DR. VASCO M., Provo, Utah: 1 gila monster—St. George, Utah (exchange).

TAYLOR, DR. EDWARD H., Lawrence, Kansas: 17 salamanders, 12 frogs—Mexico (exchange).

TEXAS COLLEGE OF ARTS AND INDUSTRIES, Kingsville, Texas: 115 salamanders, 205 frogs and toads, 288 lizards, 32 snakes—southern Texas (gift).

TIMM, ARTHUR H. W., Chicago: 1 tree frog (gift).

TOBIAS, EDWARD C., Chicago: 11 snakes—Chicago (gift).

TOKUDA, DR. MITOSI, Kyoto, Japan: 2 bats in alcohol—Formosa: 6 bats in alcohol—Marshall and Caroline Islands (exchange).

TRAYLOR, MELVIN, Chicago: 88 bird skins, 1 bird skeleton—Yucatan (gift).

UNDERWOOD, C. F., Tegucigalpa, Honduras: 81 bird skins—various localities (exchange).

UNITED STATES BUREAU OF ENTOMOLOGY, Washington, D.C.: 2 beetles—Alabama (gift).

UNITED STATES NATIONAL MUSEUM, Washington, D.C.: 2 shrews and squirrel skins and skulls—Asia (exchange).

UNITED STATES NATIONAL PARK SERVICE, Oklahoma City, Oklahoma: 36 frogs, 109 lizards, 34 snakes, 5 turtles—Brewster County, Texas (gift).

UNIVERSITY OF CHICAGO, Chicago: 1 head and photograph of ragfish—Queen Charlotte Island (gift).

UNIVERSITY OF MICHIGAN, MUSEUM OF ZOOLOGY, Ann Arbor, Michigan: 1 white-tailed deer, 26 frogs, 1 snake—various localities (exchange).

VINCENT, MRS. EDWARD E., Chicago: 6 mammal tusks, 1 seal bone (gift).

VON DER HEYDT, JAMES A., Oak Park, Illinois: 1 hoary bat—Oak Park, Illinois (gift).

WALTON, MRS. E., Highland Park, Illinois: 2 birds—Highland Park, Illinois (gift).

WEED, ALFRED C., Chicago: 353 fishes, 6 crayfish—Wayne County, New York; 3 beetles—Chicago (gift).

WEEKS, HERBERT E., Chicago: 1 tick—Chicago (gift).

WENCEL, DR. SHOLAR, Peru, Illinois: 1 chamois skin—Yugoslavia (gift).

WHEELER, LESLIE, Lake Forest, Illinois: 191 birds of prey—various localities (gift).

WILLIAMS, CONSTANCE, Chicago: 1 Siamese cat (gift).

WOLCOTT, ALBERT B., Downers Grove, Illinois: 18 insects—various localities (gift).

WOLFE, CAPTAIN L. R., Chicago: 1 yellow rail—Chicago; 1 loon skeleton—Ontario, Canada (gift).

ZOOLOGICAL SOCIETY OF LONDON, London, England: 5 hedgehogs in formalin—England (gift).

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## ARTICLES OF INCORPORATION

### STATE OF ILLINOIS

#### DEPARTMENT OF STATE

WILLIAM H. HINRICHSSEN, *Secretary of State*

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING:

Whereas, a Certificate duly signed and acknowledged having been filed in the office of the Secretary of State, on the 16th day of September, A.D. 1893, for the organization of the COLUMBIAN MUSEUM OF CHICAGO, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereto attached.

Now, therefore, I, William H. Hinrichsen, Secretary of State of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said COLUMBIAN MUSEUM OF CHICAGO is a legally organized Corporation under the laws of this State.

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of State. Done at the City of Springfield, this 16th day of September, in the year of our Lord one thousand eight hundred and ninety-three, and of the Independence of the United States the one hundred and eighteenth.

W. H. HINRICHSSEN,  
*Secretary of State.*

[SEAL]

TO HON. WILLIAM H. HINRICHSSEN,

SECRETARY OF STATE:

SIR:

We, the undersigned citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled "An Act Concerning Corporations," approved April 18, 1872, and all acts amendatory thereof; and that for the purposes of such organization we hereby state as follows, to-wit:

1. The name of such corporation is the "COLUMBIAN MUSEUM OF CHICAGO."

2. The object for which it is formed is for the accumulation and dissemination of knowledge, and the preservation and exhibition of objects illustrating Art, Archaeology, Science and History.

3. The management of the aforesaid museum shall be vested in a Board of FIFTEEN (15) TRUSTEES, five of whom are to be elected every year.

4. The following named persons are hereby selected as the Trustees for the first year of its corporate existence:

Edward E. Ayer, Charles B. Farwell, George E. Adams, George R. Davis, Charles L. Hutchinson, Daniel H. Burnham, John A. Roche, M. C. Bullock, Emil G. Hirsch, James W. Ellsworth, Allison V. Armour, O. F. Aldis, Edwin Walker, John C. Black and Frank W. Gunsaulus.

5. The location of the Museum is in the City of Chicago, County of Cook, and State of Illinois.

(Signed)

George E. Adams, C. B. Farwell, Sidney C. Eastman, F. W. Putnam, Robert McCurdy, Andrew Peterson, L. J. Gage, Charles L. Hutchinson, Ebenezer Buckingham, Andrew McNally, Edward E. Ayer, John M. Clark, Herman H. Kohlsaat, George Schneider, Henry H. Getty, William R. Harper, Franklin H. Head, E. G. Keith, J. Irving Pearce, Azel F. Hatch, Henry Wade Rogers,

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ss.

COOK COUNTY }

I, G. R. MITCHELL, a NOTARY PUBLIC in and for said County, do hereby certify that the foregoing petitioners personally appeared before me and acknowledged severally that they signed the foregoing petition as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this 14th day of September, 1893.

G. R. MITCHELL,

[SEAL]

NOTARY PUBLIC, COOK COUNTY, ILL.

#### CHANGE OF NAME

Pursuant to a resolution passed at a meeting of the corporate members held the 25th day of June, 1894, the name of the COLUMBIAN MUSEUM was changed to FIELD COLUMBIAN MUSEUM. A certificate to this effect was filed June 26, 1894, in the office of the Secretary of State for Illinois.

#### CHANGE OF NAME

Pursuant to a resolution passed at a meeting of the corporate members held the 8th day of November, 1905, the name of the FIELD COLUMBIAN MUSEUM was changed to FIELD MUSEUM OF NATURAL HISTORY. A certificate to this effect was filed November 10, 1905, in the office of the Secretary of State for Illinois.

#### CHANGE IN ARTICLE 3

Pursuant to a resolution passed at a meeting of the corporate members held the 10th day of May, 1920, the management of FIELD MUSEUM OF NATURAL HISTORY shall be invested in a Board of TWENTY-ONE (21) TRUSTEES, who shall be elected in such manner and for such time and term of office as may be provided for by the By-Laws. A certificate to this effect was filed May 21, 1920, in the office of the Secretary of State for Illinois.



## AMENDED BY-LAWS

DECEMBER, 1937

### ARTICLE I

#### MEMBERS

SECTION 1. Members shall be of twelve classes, Corporate Members, Honorary Members, Patrons, Corresponding Members, Benefactors, Contributors, Life Members, Non-Resident Life Members, Associate Members, Non-Resident Associate Members, Sustaining Members, and Annual Members.

SECTION 2. The Corporate Members shall consist of the persons named in the articles of incorporation, and of such other persons as shall be chosen from time to time by the Board of Trustees at any of its meetings, upon the recommendation of the Executive Committee; provided, that such person named in the articles of incorporation shall, within ninety days from the adoption of these By-Laws, and persons hereafter chosen as Corporate Members shall, within ninety days of their election, pay into the treasury the sum of Twenty Dollars (\$20.00) or more. Corporate Members becoming Life Members, Patrons or Honorary Members shall be exempt from dues. Annual meetings of said Corporate Members shall be held at the same place and on the same day that the annual meeting of the Board of Trustees is held.

SECTION 3. Honorary Members shall be chosen by the Board from among persons who have rendered eminent service to science, and only upon unanimous nomination of the Executive Committee. They shall be exempt from all dues.

SECTION 4. Patrons shall be chosen by the Board upon recommendation of the Executive Committee from among persons who have rendered eminent service to the Museum. They shall be exempt from all dues, and, by virtue of their election as Patrons, shall also be Corporate Members.

SECTION 5. Any person contributing or devising the sum of One Hundred Thousand Dollars (\$100,000.00) in cash, or securities, or property to the funds of the Museum, may be elected a Benefactor of the Museum.

SECTION 6. Corresponding Members shall be chosen by the Board from among scientists or patrons of science residing in foreign countries, who render important service to the Museum. They shall be elected by the Board of Trustees at any of its meetings. They shall be exempt from all dues and shall enjoy all courtesies of the Museum.

SECTION 7. Any person contributing to the Museum One Thousand Dollars (\$1,000.00) or more in cash, securities, or material, may be elected a Contributor of the Museum. Contributors shall be exempt from all dues and shall enjoy all courtesies of the Museum.

SECTION 8. Any person paying into the treasury the sum of Five Hundred Dollars (\$500.00), at any one time, shall, upon the unanimous vote of the Board, become a Life Member. Life Members shall be exempt from all dues, and shall enjoy all the privileges and courtesies of the Museum that are accorded to members of the Board of Trustees. Any person residing fifty miles or more from the city of Chicago, paying into the treasury the sum of One Hundred Dollars (\$100.00) at any one time, shall, upon the unanimous vote of the Board, become a Non-Resident Life Member. Non-Resident Life Members shall be exempt from all dues, and shall enjoy all the privileges and courtesies of the Museum that are accorded to members of the Board of Trustees.

SECTION 9. Any person paying into the treasury of the Museum the sum of One Hundred Dollars (\$100.00), at any one time, shall, upon the unanimous vote of the Board, become an Associate Member. Associate Members shall be exempt from all dues, and shall be entitled to tickets admitting Member and members of family, including non-resident home guests; all publications of the Museum, if so desired; reserved seats for all lectures and entertainments under the auspices

of the Museum, provided reservation is requested in advance; and admission of holder of membership and accompanying party to all special exhibits and Museum functions day or evening. Any person residing fifty miles or more from the city of Chicago, paying into the treasury the sum of Fifty Dollars (\$50.00) at any one time, shall, upon the unanimous vote of the Board, become a Non-Resident Associate Member. Non-Resident Associate Members shall be exempt from all dues, and shall enjoy all the privileges and courtesies of the Museum that are accorded to Associate Members.

SECTION 10. Sustaining Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of Twenty-five Dollars (\$25.00), payable within thirty days after notice of election and within thirty days after each recurring annual date. This Sustaining Membership entitles the member to free admission for the Member and family to the Museum on any day, the Annual Report and such other Museum documents or publications as may be requested in writing. When a Sustaining Member has paid the annual fee of \$25.00 for six years, such Member shall be entitled to become an Associate Member.

SECTION 11. Annual Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of Ten Dollars (\$10.00), payable within thirty days after each recurring annual date. An Annual Membership shall entitle the Member to a card of admission for the Member and family during all hours when the Museum is open to the public, and free admission for the Member and family to all Museum lectures or entertainments. This membership will also entitle the holder to the courtesies of the membership privileges of every Museum of note in the United States and Canada, so long as the existing system of cooperative interchange of membership tickets shall be maintained, including tickets for any lectures given under the auspices of any of the Museums during a visit to the cities in which the cooperative museums are located.

SECTION 12. All membership fees, excepting Sustaining and Annual, shall hereafter be applied to a permanent Membership Endowment Fund, the interest only of which shall be applied for the use of the Museum as the Board of Trustees may order.

## ARTICLE II

### BOARD OF TRUSTEES

SECTION 1. The Board of Trustees shall consist of twenty-one members. The respective members of the Board now in office, and those who shall hereafter be elected, shall hold office during life. Vacancies occurring in the Board shall be filled at a regular meeting of the Board, upon the nomination of the Executive Committee made at a preceding regular meeting of the Board, by a majority vote of the members of the Board present.

SECTION 2. Regular meetings of the Board shall be held on the third Monday of the month. Special meetings may be called at any time by the President, and shall be called by the Secretary upon the written request of three Trustees. Five Trustees shall constitute a quorum, except for the election of officers or the adoption of the Annual Budget, when seven Trustees shall be required, but meetings may be adjourned by any less number from day to day, or to a day fixed, previous to the next regular meeting.

SECTION 3. Reasonable written notice, designating the time and place of holding meetings, shall be given by the Secretary.

## ARTICLE III

### HONORARY TRUSTEES

SECTION 1. As a mark of respect, and in appreciation of services performed for the Institution, any Trustee who by reason of inability, on account of change of residence, or for other cause or from indisposition to serve longer in such capacity shall resign his place upon the Board, may be elected, by a majority of those present at any regular meeting of the Board, an Honorary Trustee for life. Such Honorary Trustee will receive notice of all meetings of the Board of Trustees,



whether regular or special, and will be expected to be present at all such meetings and participate in the deliberations thereof, but an Honorary Trustee shall not have the right to vote.

## ARTICLE IV

### OFFICERS

SECTION 1. The officers shall be a President, a First Vice-President, a Second Vice-President, a Third Vice-President, a Secretary, an Assistant Secretary and a Treasurer. They shall be chosen by ballot by the Board of Trustees, a majority of those present and voting being necessary to elect. The President, the First Vice-President, the Second Vice-President, and the Third Vice-President shall be chosen from among the members of the Board of Trustees. The meeting for the election of officers shall be held on the third Monday of January of each year, and shall be called the Annual Meeting.

SECTION 2. The officers shall hold office for one year, or until their successors are elected and qualified, but any officer may be removed at any regular meeting of the Board of Trustees by a vote of two-thirds of all the members of the Board. Vacancies in any office may be filled by the Board at any meeting.

SECTION 3. The officers shall perform such duties as ordinarily appertain to their respective offices, and such as shall be prescribed by the By-Laws, or designated from time to time by the Board of Trustees.

## ARTICLE V

### THE TREASURER

SECTION 1. The Treasurer shall be custodian of the funds of the Corporation except as hereinafter provided. He shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents, or any member of the Finance Committee.

SECTION 2. The securities and muniments of title belonging to the corporation shall be placed in the custody of some Trust Company of Chicago to be designated by the Board of Trustees, which Trust Company shall collect the income and principal of said securities as the same become due, and pay same to the Treasurer, except as hereinafter provided. Said Trust Company shall allow access to and deliver any or all securities or muniments of title to the joint order of the following officers, namely: the President or one of the Vice-Presidents, jointly with the Chairman, or one of the Vice-Chairmen, of the Finance Committee of the Museum.

SECTION 3. The Treasurer shall give bond in such amount, and with such sureties as shall be approved by the Board of Trustees.

SECTION 4. The Harris Trust & Savings Bank of Chicago shall be Custodian of "The N. W. Harris Public School Extension of Field Museum" fund. The bank shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents, or any member of the Finance Committee.

## ARTICLE VI

### THE DIRECTOR

SECTION 1. The Board of Trustees shall elect a Director of the Museum, who shall remain in office until his successor shall be elected. He shall have immediate charge and supervision of the Museum, and shall control the operations of the Institution, subject to the authority of the Board of Trustees and its Committees. The Director shall be the official medium of communication between the Board, or its Committees, and the scientific staff and maintenance force.

SECTION 2. There shall be four scientific Departments of the Museum—Anthropology, Botany, Geology, and Zoology; each under the charge of a Chief



Curator, subject to the authority of the Director. The Chief Curators shall be appointed by the Board upon the recommendation of the Director, and shall serve during the pleasure of the Board. Subordinate staff officers in the scientific Departments shall be appointed and removed by the Director upon the recommendation of the Chief Curators of the respective Departments. The Director shall have authority to employ and remove all other employees of the Museum.

SECTION 3. The Director shall make report to the Board at each regular meeting, recounting the operations of the Museum for the previous month. At the Annual Meeting, the Director shall make an Annual Report, reviewing the work for the previous year, which Annual Report shall be published in pamphlet form for the information of the Trustees and Members, and for free distribution in such number as the Board may direct.

## ARTICLE VII

### THE AUDITOR

SECTION 1. The Board shall appoint an Auditor, who shall hold his office during the pleasure of the Board. He shall keep proper books of account, setting forth the financial condition and transactions of the Corporation, and of the Museum, and report thereon at each regular meeting, and at such other times as may be required by the Board. He shall certify to the correctness of all bills rendered for the expenditure of the money of the Corporation.

## ARTICLE VIII

### COMMITTEES

SECTION 1. There shall be five Committees, as follows: Finance, Building, Auditing, Pension, and Executive.

SECTION 2. The Finance Committee shall consist of five members, the Auditing and Pension Committees shall each consist of three members, and the Building Committee shall consist of five members. All members of these four Committees shall be elected by ballot by the Board at the Annual Meeting, and shall hold office for one year, and until their successors are elected and qualified. In electing the members of these Committees, the Board shall designate the Chairman and Vice-Chairman by the order in which the members are named in the respective Committee; the first member named shall be Chairman, the second named the Vice-Chairman, and the third named, Second Vice-Chairman, succession to the Chairmanship being in this order in the event of the absence or disability of the Chairman.

SECTION 3. The Executive Committee shall consist of the President of the Board, the Chairman of the Finance Committee, the Chairman of the Building Committee, the Chairman of the Auditing Committee, the Chairman of the Pension Committee, and three other members of the Board to be elected by ballot at the Annual Meeting.

SECTION 4. Four members shall constitute a quorum of the Executive Committee, and in all standing Committees two members shall constitute a quorum. In the event that, owing to the absence or inability of members, a quorum of the regularly elected members cannot be present at any meeting of any Committee, then the Chairman thereof, or his successor, as herein provided, may summon any members of the Board of Trustees to act in place of the absentee.

SECTION 5. The Finance Committee shall have supervision of investing the endowment and other permanent funds of the Corporation, and the care of such real estate as may become its property. It shall have authority to invest, sell, and reinvest funds, subject to the approval of the Board.

SECTION 6. The Building Committee shall have supervision of the construction, reconstruction, and extension of any and all buildings used for Museum purposes.

SECTION 7. The Executive Committee shall be called together from time to time as the Chairman may consider necessary, or as he may be requested to do by three members of the Committee, to act upon such matters affecting the administration of the Museum as cannot await consideration at the Regular Monthly Meetings of the Board of Trustees. It shall, before the beginning of

each fiscal year, prepare and submit to the Board an itemized Budget, setting forth the probable receipts from all sources for the ensuing year, and make recommendations as to the expenditures which should be made for routine maintenance and fixed charges. Upon the adoption of the Budget by the Board, the expenditures stated are authorized.

SECTION 8. The Auditing Committee shall have supervision over all accounting and bookkeeping, and full control of the financial records. It shall cause the same, once each year, or oftener, to be examined by an expert individual or firm, and shall transmit the report of such expert individual or firm to the Board at the next ensuing regular meeting after such examination shall have taken place.

SECTION 9. The Pension Committee shall determine by such means and processes as shall be established by the Board of Trustees to whom and in what amount the Pension Fund shall be distributed. These determinations or findings shall be subject to the approval of the Board of Trustees.

SECTION 10. The Chairman of each Committee shall report the acts and proceedings thereof at the next ensuing regular meeting of the Board.

SECTION 11. The President shall be ex-officio a member of all Committees and Chairman of the Executive Committee. Vacancies occurring in any Committee may be filled by ballot at any regular meeting of the Board.

## ARTICLE IX

### NOMINATING COMMITTEE

SECTION 1. At the November meeting of the Board each year, a Nominating Committee of three shall be chosen by lot. Said Committee shall make nominations for membership of the Finance Committee, the Building Committee, the Auditing Committee, and the Pension Committee, and for three members of the Executive Committee, from among the Trustees, to be submitted at the ensuing December meeting and voted upon at the following Annual Meeting in January.

## ARTICLE X

SECTION 1. Whenever the word "Museum" is employed in the By-Laws of the Corporation, it shall be taken to mean the building in which the Museum as an Institution is located and operated, the material exhibited, the material in study collections, or in storage, furniture, fixtures, cases, tools, records, books, and all appurtenances of the Institution and the workings, researches, installations, expenditures, field work, laboratories, library, publications, lecture courses, and all scientific and maintenance activities.

SECTION 2. These By-Laws may be amended at any regular meeting of the Board of Trustees by a two-thirds vote of all the members present, provided the amendment shall have been proposed at a preceding regular meeting.

## FOUNDER

Marshall Field\*

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## BENEFACTORS

*Those who have contributed \$100,000 or more to the Museum*

Ayer, Edward E.*	Harris, Albert W.	Raymond, James Nelson*
Buckingham, Miss	Harris, Norman W.*	Ryerson, Martin A.*
Kate S.*	Higinbotham, Harlow N.*	Ryerson, Mrs.
		Martin A.*
Crane, Cornelius	Kelley, William V.*	Simpson, James
Crane, R. T., Jr.*		Smith, Mrs. Frances
Field, Joseph N.*	Pullman, George M.*	Gaylord*
Field, Marshall		Smith, George T.*
Field, Stanley	Rawson, Frederick H.*	Sturges, Mrs. Mary D.*
Graham, Ernest R.*	Raymond, Mrs. Anna	Suarez, Mrs. Diego
	Louise	

\* DECEASED

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## HONORARY MEMBERS

*Those who have rendered eminent service to Science*

Chalmers, William J.	Ludwig, H. R. H. Gustaf	Roosevelt, Theodore
Crane, Charles R.	Adolf, Crown Prince of	
Cutting, C. Suydam	Sweden	Sargent, Homer E.
		Simpson, James
Field, Marshall	McCormick, Stanley	Sprague, Albert A.
Field, Stanley		Suarez, Mrs. Diego
Harris, Albert W.	Roosevelt, Kermit	Vernay, Arthur S.

DECEASED, 1937

Rawson, Frederick H.

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## PATRONS

*Those who have rendered eminent service to the Museum*

Armour, Allison V.	Ellsworth, Duncan S.	Roosevelt, Kermit
		Roosevelt, Theodore
Chadbourn, Mrs. Emily	Field, Mrs. Stanley	
Crane		Sargent, Homer E.
Chancellor, Philip M.	Hancock, G. Allan	Straus, Mrs. Oscar
Cherrie, George K.	Insull, Samuel	Strawn, Silas H.
Collins, Alfred M.		Suarez, Mrs. Diego
Conover, Boardman	Kennedy, Vernon Shaw	
Cummings, Mrs.	Knight, Charles R.	Vernay, Arthur S.
Robert F.		
Cutting, C. Suydam	Moore, Mrs. William H.	Wegeforth, Dr. Harry M.
Day, Lee Garnett	Probst, Edward	White, Harold A.

DECEASED, 1937

Langdon, Professor Stephen

Rawson, Frederick H.



## CORRESPONDING MEMBERS

*Scientists or patrons of science, residing in foreign countries, who have rendered eminent service to the Museum*

Breuil, Abbé Henri	Diels, Dr. Ludwig	Keissler, Dr. Karl
Christensen, Dr. Carl	Hochreutiner, Dr. B. P. Georges	Keith, Professor Sir Arthur
DECEASED, 1937		
Langdon, Professor Stephen	Smith, Professor Sir Grafton Elliot	

## CONTRIBUTORS

*Those who have contributed \$1,000 to \$100,000 to the Museum in money or materials*

## \$75,000 to \$100,000

Chancellor, Philip M.

## \$50,000 to \$75,000

Keep, Chauncey\*

Rosenwald, Mrs.  
Augusta N.\*

## \$25,000 to \$50,000

Blackstone, Mrs.  
Timothy B.\*Coats, John\*  
Crane, Charles R.

Field, Mrs. Stanley

Jones, Arthur B.\*

Porter, George F.\*

Rosenwald, Julius\*

Vernay, Arthur S.

White, Harold A.

## \$10,000 to \$25,000

Armour, Allison V.  
Armour, P. D.\*Chadbourne, Mrs. Emily  
CraneChalmers, William J.  
Conover, Boardman  
Cummings, R. F.\*  
Cutting, C. Suydam

Everard, R. T.\*

Gunsaulus, Dr. F. W.\*

Insull, Samuel

Laufer, Dr. Berthold\*

McCormick, Cyrus  
(Estate)  
McCormick, Stanley  
Mitchell, John J.\*Reese, Lewis\*  
Robb, Mrs. George W.  
Rockefeller Foundation,  
TheSargent, Homer E.  
Schweppe, Mrs.  
Charles H.\*Straus, Mrs. Oscar  
Strong, Walter A.\*

Wrigley, William, Jr.\*

## \$5,000 to \$10,000

Adams, George E.\*  
Adams, Milward\*  
American Friends of  
ChinaBartlett, A. C.\*  
Bishop, Heber (Estate)  
Borland, Mrs. John Jay\*

Crane, R. T.\*

Doane, J. W.\*

Fuller, William A.\*

Graves, George Coe, II\*

Harris, Hayden B.  
Harris, Norman DwightHarris, Mrs. Norman W.\*  
Hutchinson, C. L.\*

Keith, Edson\*

Langtry, J. C.

MacLean, Mrs. M.  
Haddon  
Mandel, Leon  
Moore, Mrs. William H.Payne, John Barton\*  
Pearsons, D. K.\*  
Porter, H. H.\*Ream, Norman B.\*  
Revell, Alexander H.\*Salie, Prince M. U. M.  
Sprague, A. A.\*  
Strawn, Silas H.Thorne, Bruce  
Tree, Lambert\*

## \$1,000 to \$5,000

Ayer, Mrs. Edward E.\*

Barrett, Samuel E.\*  
Bensabott, R., Inc.  
Blair, Watson F.\*  
Blaschke, Stanley  
Field  
Block, Mrs. Helen M.\*  
Borden, JohnChalmers, Mrs. William J.  
Chicago Zoological  
Society, The  
Crane, Mrs. R. T., Jr.  
Crocker, Templeton

# 278 FIELD MUSEUM OF NATURAL HISTORY—REPORTS, VOL. XI

Cummings, Mrs. Robert F.	Jackson, Huntington W.* James, S. L.	Reynolds, Earle H. Rumely, William N.*
Doering, O. C.	Lee Ling Yün Look, Alfred A.	Schwab, Martin C. Shaw, William W.
Field, Dr. Henry	Mandel, Fred L., Jr. Manierre, George*	Sheriff, Dr. Earl E. Smith, Byron L.*
Graves, Henry, Jr. Gunsaulus, Miss Helen	Martin, Alfred T.* McCormick, Cyrus H.* McCormick, Mrs. Cyrus*	Sprague, Albert A.
Hibbard, W. G.* Higginson, Mrs. Charles M.*	Ogden, Mrs. Frances E.* Osgood, Dr. Wilfred H.	Thompson, E. H. Thorne, Mrs. Louise E.
Hill, James J.* Hixon, Frank P.*	Palmer, Potter Patten, Henry J.	VanValzah, Dr. Robert VonFrantzius, Fritz*
Hoffman, Miss Malvina Hughes, Thomas S.	Rauchfuss, Charles F. Raymond, Charles E.*	Wheeler, Leslie* Willis, L. M.

\*DECEASED

## CORPORATE MEMBERS

Armour, Allison V. Avery, Sewell L.	Ellsworth, Duncan S.	Probst, Edward
Block, Leopold E. Borden, John Byram, Harry E.	Field, Joseph N. Field, Marshall Field, Stanley Field, Mrs. Stanley	Richardson, George A. Roosevelt, Kermit Roosevelt, Theodore
Chadbourne, Mrs. Emily Crane Chalmers, William J. Chancellor, Philip M. Chatfield-Taylor, H. C. Cherrie, George K. Collins, Alfred M. Conover, Boardman Cummings, Mrs. Robert F. Cutting, C. Suydam	Hancock, G. Allan Harris, Albert W.  Insull, Samuel Insull, Samuel, Jr.  Kennedy, Vernon Shaw Knight, Charles R.  McCulloch, Charles A. Mitchell, William H. Moore, Mrs. William H.	Sargent, Fred W. Sargent, Homer E. Simpson, James Smith, Solomon A. Sprague, Albert A. Straus, Mrs. Oscar Strawn, Silas H. Suarez, Mrs. Diego  Vernay, Arthur S.  Wegeforth, Dr. Harry M. White, Harold A. Wilson, John P.

DECEASED, 1937

Langdon, Professor Stephen	Rawson, Frederick H. Simms, Stephen C.	Wheeler, Leslie
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## LIFE MEMBERS

*Those who have contributed \$500 to the Museum*

Abbott, John Jay Abbott, Robert S. Adler, Max Alexander, William A. Allerton, Robert H. Ames, James C. Armour, A. Watson Armour, Allison V. Armour, Lester Armour, Mrs. Ogden	Asher, Louis E. Avery, Sewell L.  Babson, Henry B. Bacon, Edward Richardson, Jr. Banks, Alexander F. Barnhart, Miss Gracia M. F. Barrett, Mrs. A. D.	Barrett, Robert L. Bartlett, Miss Florence Dibell Baur, Mrs. Jacob Bendix, Vincent Bensabott, R. Birmingham, Edward J. Blaine, Mrs. Emmons Blair, Chauncey B. Block, Emanuel J.
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- Block, Leopold E.  
 Block, Philip D.  
 Booth, W. Vernon  
 Borden, John  
 Borland, Chauncey B.  
 Boynton, Mrs. C. T.  
 Brassert, Herman A.  
 Brewster, Walter S.  
 Brown, Charles  
     Edward  
 Browne, Aldis J.  
 Buchanan, D. W.  
 Budd, Britton I.  
 Burnham, John  
 Burt, William G.  
 Butler, Julius W.  
 Butler, Rush C.  
 Byram, Harry E.  
 Carpenter, Augustus A.  
 Carpenter, Mrs. Hubbard  
 Carpenter, Mrs. John  
     Alden  
 Carr, George R.  
 Carr, Robert F.  
 Carr, Walter S.  
 Casalis, Mrs. Maurice  
 Chalmers, William J.  
 Chalmers, Mrs. William J.  
 Chatfield-Taylor, Wayne  
 Clark, Eugene B.  
 Clegg, William G.  
 Clegg, Mrs. William G.  
 Clow, William E.  
 Collins, William M.  
 Conover, Boardman  
 Cooke, George A.  
 Corley, F. D.  
 Cowles, Alfred  
 Cramer, Corwith  
 Cramer, Mrs.  
     Katharine S.  
 Crane, Charles R.  
 Crossett, Edward C.  
 Crossley, Lady Josephine  
 Crossley, Sir Kenneth  
 Crowell, H. P.  
 Cudahy, Edward A.  
 Cudahy, Edward A., Jr.  
 Cudahy, Joseph M.  
 Cummings, Walter J.  
 Cunningham, Frank S.  
 Cunningham, James D.  
 Cushing, Charles G.  
 Davies, Mrs. D. C.  
 Dawes, Charles G.  
 Dawes, Henry M.  
 Dawes, Rufus C.  
 Decker, Alfred  
 Delano, Frederic A.  
 Dick, Albert B., Jr.  
 Dierssen, Ferdinand W.  
 Dixon, George W.  
 Dixon, Homer L.  
 Donnelley, Thomas E.  
 Doyle, Edward J.  
 Drake, John B.  
 Drake, Tracy C.  
 Durand, Scott S.  
 Edmunds, Philip S.  
 Ely, Mrs. C. Morse  
 Epstein, Max  
 Everitt, George B.  
 Ewing, Charles Hull  
 Farnum, Henry W.  
 Farr, Newton Camp  
 Farr, Miss Shirley  
 Farwell, Arthur L.  
 Farwell, John V.  
 Farwell, Walter  
 Fay, C. N.  
 Fenton, Howard W.  
 Fentress, Calvin  
 Ferguson, Louis A.  
 Fernald, Charles  
 Field, Joseph N.  
 Field, Marshall  
 Field, Norman  
 Field, Mrs. Norman  
 Field, Stanley  
 Field, Mrs. Stanley  
 Gardner, Paul E.  
 Gardner, Robert A.  
 Gartz, A. F., Jr.  
 Gary, Mrs. John W.  
 Getz, George F.  
 Gilbert, Huntly H.  
 Glore, Charles F.  
 Goodrich, A. W.  
 Goodspeed, Charles B.  
 Gowing, J. Parker  
 Hack, Frederick C.  
 Hamill, Alfred E.  
 Hamill, Mrs. Ernest A.  
 Harris, Albert W.  
 Harris, Norman W.  
 Hastings, Samuel M.  
 Hayes, William F.  
 Hecht, Frank A., Jr.  
 Heineman, Oscar  
 Hemmens, Mrs.  
     Walter P.  
 Hibbard, Frank  
 Hickox, Mrs. Charles V.  
 Hill, Louis W.  
 Hinde, Thomas W.  
 Hixon, Robert  
 Hopkins, J. M.  
 Hopkins, L. J.  
 Horowitz, L. J.  
 Hoyt, N. Landon  
 Hughes, Thomas S.  
 Hutchins, James C.  
 Insull, Martin J.  
 Insull, Samuel  
 Insull, Samuel, Jr.  
 Jarnagin, William N.  
 Jelke, John F., Jr.  
 Johnson, Mrs. Elizabeth  
     Ayer  
 Joiner, Theodore E.  
 Jones, Miss Gwethalyn  
 Kelley, Mrs. Daphne  
     Field  
 Kelley, Russell P.  
 Kelly, D. F.  
 Kidston, William H.  
 King, Charles Garfield  
 King, James G.  
 Kirk, Walter Radcliffe  
 Knickerbocker,  
     Charles K.  
 Ladd, John  
 Lamont, Robert P.  
 Lehmann, E. J.  
 Leonard, Clifford M.  
 Leopold, Mrs. Harold E.  
 Levy, Mrs. David M.  
 Linn, Mrs. Dorothy C.  
 Logan, Spencer H.  
 Lowden, Frank O.  
 Lytton, Henry C.  
 MacDowell, Charles H.  
 MacLeish, John E.  
 MacVeagh, Eames  
 Madlener, Mrs. Albert F.  
 Marshall, Benjamin H.  
 Mason, William S.  
 McCormick, Harold F.  
 McCormick, Stanley  
 McCutcheon, John T.  
 McGann, Mrs. Robert G.  
 McIlvaine, William B.  
 McInnerney, Thomas H.  
 McKinlay, John  
 McLaughlin, Frederic  
 McLennan, D. R.  
 McLennan, Hugh  
 McNulty, T. J.  
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     Frederick C.  
 Gilbert, Miss Clara C.  
 Gilchrist, Mrs. John F.  
 Gilchrist, Mrs. William  
     Albert  
 Giles, Carl C.  
 Gillette, Mrs. Ellen D.  
 Gillman, Morris  
 Gillson, Louis K.  
 Ginther, Miss Minnie C.  
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 Glaescher, Mrs. G. W.  
 Glasgow, H. A.  
 Glasner, Rudolph W.  
 Godehn, Paul M.  
 Goedke, Charles F.  
 Goehst, Mrs. John  
     Henry  
 Goes, Mrs. Arthur A.  
 Golden, Dr. Isaac J. K.  
 Goldenberg, Sidney D.  
 Goldfine, Dr. Ascher H. C.  
 Golding, Robert N.  
 Goldstine, Dr. Mark T.  
 Goldy, Walter I.  
 Goltra, Mrs. William B.  
 Goode, Mrs. Rowland T.  
 Gooden, G. E.  
 Goodkind, Dr. Maurice L.  
 Goodman, Benedict K.  
 Goodman, Mrs. Milton F.  
 Goodman, W. J.  
 Goodman, William E.  
 Goodwin, Clarence  
     Norton  
 Goodwin, George S.  
 Gordon, Miss Bertha F.  
 Gordon, Harold J.  
 Gordon, Mrs. Robert D.  
 Gorrell, Mrs. Warren  
 Gradle, Dr. Harry S.  
 Graf, Robert J.  
 Graff, Oscar C.  
 Graham, Douglas  
 Graham, E. V.  
 Graham, Miss  
     Margaret H.  
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 Granger, Mrs. Everett J.  
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 Grant, James D.  
 Grant, John G.  
 Graves, Howard B.  
 Grawoig, Allen  
 Green, Miss Mary  
     Pomeroy  
 Green, Robert D.
- Green, Zola C.  
 Greenberg, Andrew H.  
 Greenburg, Dr. Ira E.  
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 Greenebaum, M. E., Jr.  
 Greenlee, James A.  
 Greenlee, Mrs. William  
     Brooks  
 Greenman, Mrs. Earl C.  
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 Gregory, Stephen  
     S., Jr.  
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 Grey, Charles F.  
 Grey, Dr. Dorothy  
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     Edwin O.  
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 Griffith, E. L.  
 Griffith, Mrs. William  
 Griffiths, George W.  
 Grimm, Walter H.  
 Griswold, Harold T.  
 Grizzard, James A.  
 Gronkowski, Rev. C. I.  
 Groot, Cornelius J.  
 Groot, Lawrence A.  
 Gross, Henry R.  
 Grossman, Frank I.  
 Grotenhuis, Mrs.  
     William J.  
 Grotowski, Dr. Leon  
 Gruhn, Alvah V.  
 Grulee, Lowry K.  
 Grunow, Mrs. William C.  
 Guenzel, Louis  
 Guest, Ward E.  
 Gundlach, Ernest T.  
 Gunthorp, Walter J.  
 Gurley, Miss Helen K.  
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- Haas, Adolph R.  
 Haas, Maurice  
 Haas, Dr. Raoul R.  
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 Hagen, Fred J.  
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 Hall, David W.  
 Hall, Edward B.  
 Hall, Mrs. J. B.



- Hallmann, August F.  
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     George F.  
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     Frances M.  
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 Hardie, George F.  
 Hardin, John H.  
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     F., Jr.  
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 Harris, Hayden B.  
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 Hartmann, A. O.  
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     Sherman  
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     Amanda F.  
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     Abraham J.  
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     Raymond S.  
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     Dickinson  
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     Hempstead  
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     L., Jr.  
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 Horton, Horace B.  
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     Lyman  
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 Johnstone, Dr. Mary M. S.  
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 Jones, Lester M.  
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 Jones, Melvin  
 Jones, Miss Susan E.  
 Jones, Warren G.  
 Joseph, Louis L.  
 Joy, Guy A.  
 Joyce, Joseph  
 Judah, Noble Brandon  
 Judson, Clay  
 Juergens, H. Paul  
 Julien, Victor R.  
 Junkunc, Stephen  
 Kaercher, A. W.  
 Kahn, Gus  
 Kahn, J. Kesner  
 Kahn, Louis  
 Kaine, James B.  
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 Kanter, Jerome J.  
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 Kempner, Stan  
 Kendall, Mrs. Virginia H.  
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 Kennedy, Miss Leonore  
 Kennedy, Lesley  
 Kennelly, Martin H.  
 Kent, Dr. O. B.  
 Keogh, Gordon E.  
 Kern, Trude  
 Kersey, Glen B.  
 Kerwin, Edward M.  
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 King, Joseph H.  
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 Kinsey, Robert S.  
 Kintzel, Richard  
 Kircher, Rev. Julius  
 Kirchheimer, Max  
 Kirkland, Mrs. Weymouth  
 Kitchell, Howell W.  
 Kittredge, R. J.  
 Kitzelman, Otto  
 Klein, Arthur F.  
 Klein, Henry A.  
 Klein, Mrs. Samuel  
 Kleinpell, Dr. Henry H.  
 Kleist, Mrs. Harry  
 Kleppinger, William H.  
 Kleutgen, Dr. Arthur C.  
 Kline, Sol  
 Klintop, Mrs. Charles W.  
 Knopf, Andrew J.  
 Knott, Mrs. Stephen R.  
 Knox, Harry S.

- Knutson, George H.  
 Koch, Paul W.  
 Koch, Raymond J.  
 Kochs, August  
 Kochs, Mrs. Robert T.  
 Kohl, Mrs. Caroline L.  
 Kohler, Eric L.  
 Kohlsaat, Edward C.  
 Komiss, David S.  
 Konsberg, Alvin V.  
 Kopf, William P.  
 Kosobud, William F.  
 Kotal, John A.  
 Kotin, George N.  
 Koucky, Dr. J. D.  
 Kovac, Stefan  
 Kraber, Mrs. Fredericka  
 Kraft, C. H.  
 Kraft, James L.  
 Kraft, Norman  
 Kralovec, Emil G.  
 Kralovec, Mrs. Otto J.  
 Kramer, Leroy  
 Kraus, Peter J.  
 Kraus, Samuel B.  
 Krause, John J.  
 Kretschmer, Dr.  
   Herman L.  
 Kritchevsky, Dr. Wolff  
 Kroehl, Howard  
 Kropff, C. G.  
 Krost, Dr. Gerard N.  
 Krueger, Leopold A.  
 Krutckoff, Charles  
 Kuehn, A. L.  
 Kuh, Mrs. Edwin J., Jr.  
 Kuhl, Harry J.  
 Kuhn, Frederick T.  
 Kuhn, Dr. Hedwig S.  
 Kunka, Bernard J.  
 Kunstadter, Albert  
 Kunstadter, Sigmund W.  
 Kurtzon, Morris  
  
 Lacey, Miss Edith M.  
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   Leander H.  
 Laffin, Mrs. Louis E.  
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 Lampert, Wilson W.  
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 Lanahan, Mrs. M. J.  
 Landry, Alvar A.  
 Lane, F. Howard  
 Lane, Ray E.  
 Lane, Wallace R.  
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 Langenbach, Mrs.  
   Alice R.  
  
 Langhorne, George  
   Tayloe  
 Langworthy, Benjamin  
   Franklin  
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 Larimer, Howard S.  
 Lashley, Mrs. Karl S.  
 Lasker, Albert D.  
 Lau, Max  
 Lauren, Newton B.  
 Lauter, Mrs. Vera  
 Lautmann, Herbert M.  
 Lavezzorio, Mrs. J. B.  
 Lavidge, Arthur W.  
 Law, Mrs. Robert O.  
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 Lawson, A. J.  
 Lawson, Mrs. Iver N.  
 Lawton, Frank W.  
 Laylander, O. J.  
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 Leavitt, Mrs. Wellington  
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 Lebold, Samuel N.  
 Lebolt, John Michael  
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 Lefens, Walter C.  
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   Augusta E.  
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 Leight, Mrs. Albert E.  
 Leistner, Oscar  
 Leland, Miss Alice J.  
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 LeMoon, A. R.  
 Lenz, J. Mayo  
 Leonard, Arthur G.  
 Leonard, Arthur T.  
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 Leverone, Louis E.  
 Levinson, Mrs. Salmon O.  
 Levis, Mrs. Albert Cotter  
 Levitan, Benjamin  
 Levitetz, Nathan  
 Levy, Alexander M.  
 Levy, Arthur G.  
 Lewis, David R.  
 Lewy, Dr. Alfred  
 Libby, Mrs. C. P.  
 Liebman, A. J.  
 Ligman, Rev. Thaddeus  
 Lillie, Frank R.  
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 Lindheimer, B. F.  
 Lindholm, Charles V.  
 Lindquist, J. E.  
  
 Lingle, Bowman C.  
 Linton, Ben B.  
 Lipman, Robert R.  
 Liss, Samuel  
 Little, Mrs. E. H.  
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 Livingston, Mrs.  
   Milton L.  
 Llewellyn, Mrs. John T.  
 Llewellyn, Paul  
 Lloyd, Edward W.  
 Lloyd, William Bross  
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 Loeb, Mrs. A. H.  
 Loeb, Hamilton M.  
 Loeb, Jacob M.  
 Loeb, Leo A.  
 Loesch, Frank J.  
 Loewenberg, Israel S.  
 Loewenberg, M. L.  
 Loewenstein, Sidney  
 Loewenthal, Richard J.  
 Logan, John I.  
 Logan, L. B.  
 Long, Mrs. Joseph B.  
 Long, William E.  
 Lord, Arthur R.  
 Lord, Mrs. Russell  
 Loucks, Charles O.  
 Louer, Albert S.  
 Love, Chase W.  
 Lovell, William H.  
 Lovgren, Carl  
 Lownik, Dr. Felix J.  
 Lucey, Patrick J.  
 Ludington, Nelson J.  
 Ludlam, Miss Bertha S.  
 Ludolph, Wilbur M.  
 Lueder, Arthur C.  
 Lufkin, Wallace W.  
 Luria, Herbert A.  
 Lurie, H. J.  
 Lustgarten, Samuel  
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 Lynch, William Joseph  
 Lyon, Charles H.  
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 Magan, Miss Jane A.  
 Magill, Henry P.



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     McWilliams, II  
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 Martin, W. B.  
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     Bittering  
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     Chauncey  
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     Elizabeth  
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 McMillan, John  
 McMillan, W. B.  
 McMillan, William M.  
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 Meyer, Albert  
 Meyer, Charles Z.  
 Meyer, Sam R.  
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 Mueller, J. Herbert  
 Mueller, Paul H.  
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     Jane  
 Mulholand, William H.  
 Mulligan, George F.  
 Munroe, Moray  
 Murphy, Robert E.  
 Musselman, Dr. George H.  
  
 Naber, Henry G.  
 Nadler, Dr. Walter H.  
 Naess, Sigurd E.  
 Nash, Charles J.  
 Nathan, Claude  
 Nebel, Herman C.  
 Neely, Miss Carrie  
     Blair  
 Neely, Mrs. Lloyd F.  
 Nehls, Arthur L.  
 Neilson, Mrs. Francis  
 Nellegar, Mrs. Jay C.  
 Nelson, Charles G.  
 Nelson, Donald M.  
 Nelson, Murry  
 Nelson, N. J.  
 Nelson, Victor W.  
 Netcher, Mrs. Charles  
 Neu, Clarence L.  
 Neuffer, Paul A.  
 Neumann, Arthur E.  
 Newhall, R. Frank  
 Newhouse, Karl  
 Nichols, Mrs. George R.  
 Nichols, Mrs. George  
     R., Jr.  
 Nichols, J. C.  
 Nichols, S. F.  
 Nicholson, Thomas G.  
 Nitze, Mrs. William A.  
  
 Noble, Samuel R.  
 Noelle, Joseph B.  
 Nollau, Miss Emma  
 Noonan, Edward J.  
 Norcross, Frederic F.  
 Norman, Harold W.  
 Norris, Mrs. Lester  
 Norton, R. H.  
 Novak, Charles J.  
 Noyes, A. H.  
 Noyes, Allan S.  
 Noyes, David A.  
 Noyes, Mrs. May Wells  
 Nusbaum, Mrs. Carl B.  
 Nyman, Dr. John Egbert  
  
 Oates, James F.  
 Oberfelder, Herbert M.  
 Oberfelder, Walter S.  
 O'Brien, Frank J.  
 O'Brien, Miss Janet  
 Odell, William R.  
 Odell, William  
     R., Jr.  
 O'Donnell, Miss Rose  
 Off, Mrs. Clifford  
 Ogfield, James R.  
 Oglesbee, Nathan H.  
 O'Keefe, Mrs. Dennis D.  
 Olcott, Mrs. Henry C.  
 Oldefest, Edward G.  
 O'Leary, John W.  
 Oliver, Gene G.  
 Oliver, Mrs. Paul  
 Olson, Gustaf  
 Omo, Don L.  
 Oppenheimer, Alfred  
 Oppenheimer, Mrs.  
     Harry D.  
 Orndoff, Dr. Benjamin H.  
 O'Rourke, Albert  
 Orr, Mrs. Eleanor N.  
 Orr, Mrs. Robert C.  
 Orr, Thomas C.  
 Orthal, A. J.  
 Ortmyer, Dr. Marie  
 Osborn, Mrs. Gertrude L.  
 Osborn, Theodore L.  
 Ostrom, Charles S.  
 Ostrom, Mrs. James  
     Augustus  
 Otis, J. Sanford  
 Otis, Joseph E.  
 Otis, Joseph Edward, Jr.  
 Otis, Ralph C.  
 Otis, Raymond  
 Otis, Stuart Huntington  
 Ouska, John A.  
 Overton, George W.  
 Owings, Mrs.  
     Nathaniel A.  
  
 Paasche, Jens A.  
 Packard, Dr. Rollo K.  
 Paepcke, Walter P.  
 Page-Wood, Gerald  
 Pagin, Mrs. Frank S.  
 Pam, Miss Carrie  
 Partridge, Albert J.  
 Partridge, Mrs. E. W.  
 Park, R. E.  
 Parker, Frank B.  
 Parker, Dr. Gaston C.  
 Parker, Dr. J. William  
 Parker, Norman S.  
 Parker, Troy L.  
 Parks, C. R.  
 Parmelee, Dr. A. H.  
 Partridge, Lloyd C.  
 Paschen, Mrs. Henry  
 Patrick, Miss Catherine  
 Patrick, Dr. Hugh T.  
 Patterson, Mrs. L. B.  
 Patterson, Mrs. Wallace  
 Pauling, Edward G.  
 Payne, Professor James  
 Peabody, Mrs. Francis S.  
 Peabody, Howard B.  
 Peabody, Miss Susan W.  
 Peacock, Robert E.  
 Peacock, Walter C.  
 Pearl, Allen S.  
 Pearse, Langdon  
 Pearson, F. W.  
 Pearson, George  
     Albert, Jr.  
 Peck, Dr. David B.  
 Peet, Mrs. Belle G.  
 Peirce, Albert E.  
 Pelley, John J.  
 Peltier, M. F.  
 PenDell, Charles W.  
 Percy, Dr. Nelson  
     Mortimer  
 Perkins, A. T.  
 Perkins, Mrs. Herbert F.  
 Perry, Dr. Ethel B.  
 Perry, I. Newton  
 Peter, William F.  
 Peterkin, Daniel  
 Peters, Harry A.  
 Petersen, Jurgen  
 Petersen, Dr. William F.  
 Peterson, Albert  
 Peterson, Alexander B.  
 Peterson, Arthur J.  
 Peterson, Axel A.  
 Peterson, Mrs. Bertha I.  
 Pfiaum, A. J.  
 Pflock, Dr. John J.  
 Phelps, Mason  
 Phelps, Mrs. W. L.  
 Phemister, Dr. Dallas B.

- Phillips, Dr. Herbert  
   Morrow  
 Picher, Mrs. Oliver S.  
 Pick, Albert, Jr.  
 Pierce, J. Norman  
 Pierce, Paul, Jr.  
 Pirie, Mrs. John T.  
 Pitcher, Mrs. Henry L.  
 Pitzner, Alwin Frederick  
 Plapp, Miss Doris A.  
 Platt, Mrs. Robert S.  
 Plunkett, William H.  
 Podell, Mrs. Beatrice  
   Hayes  
 Polk, Mrs. Stella F.  
 Pollock, Dr. Harry L.  
 Pomeroy, Mrs. Frank W.  
 Pond, Irving K.  
 Pontius, Dr. John R.  
 Pool, Marvin B.  
 Poole, Mrs. Frederick  
   Arthur  
 Poole, George A.  
 Poole, Mrs. Ralph H.  
 Poor, Fred A.  
 Poor, Mrs. Fred A.  
 Pope, Frank  
 Pope, Henry  
 Pope, Herbert  
 Poppenhagen, Henry J.  
 Porter, Mrs. Frank S.  
 Porter, Henry H.  
 Porter, James F.  
 Porterfield, Mrs. John F.  
 Post, Frederick, Jr.  
 Post, Mrs. Philip Sidney  
 Pottenger, William A.  
 Pottenger, Miss  
   Zipporah Herrick  
 Powell, Isaac N.  
 Prah, Frederick A.  
 Pratt, Mrs. William E.  
 Prentice, John K.  
 Primley, Walter S.  
 Prince, Rev. Herbert W.  
 Prince, Leonard M.  
 Proxmire, Dr.  
   Theodore Stanley  
 Prussing, Mrs. R. E.  
 Puckey, F. W.  
 Pulver, Hugo  
 Purcell, Joseph D.  
 Purdy, Sparrow E.  
 Pusey, Dr. William Allen  
 Putnam, Miss Mabel C.  
  
 Quick, Miss Hattiemae  
 Quigley, William J.  
 Quinlan, Dr. William W.  
  
 Raber, Franklin  
 Radau, Hugo  
  
 Radford, Mrs. W. A., Jr.  
 Radniecki, Rev. Stanley  
 Raff, Mrs. Arthur  
 Raftree, Miss Julia M.  
 Railton, Miss Frances  
 Raithel, Miss Luella  
 Ramis, Leon Lipman  
 Randall, Charles P.  
 Randall, Rev. Edwin J.  
 Randall, Irving  
 Randle, Mrs. Charles H.  
 Randle, Guy D.  
 Raney, Mrs. R. J.  
 Rankin, Miss Jessie H.  
 Raymond, Mrs.  
   Howard D.  
 Razim, A. J.  
 Reach, Benjamin F.  
 Reach, William  
 Redington, F. B.  
 Reed, Mrs. Frank D.  
 Reed, Mrs. Kersey Coates  
 Reed, Norris H.  
 Reed, Mrs. Philip L.  
 Reeve, Mrs. Earl  
 Reeve, Frederick E.  
 Reffelt, Miss F. A.  
 Regenstein, Joseph  
 Regensteiner, Theodore  
 Regnery, William H.  
 Reich, Miss Annie  
 Reichmann, Alexander F.  
 Reid, Mrs. Bryan  
 Remy, Mrs. William  
 Renshaw, Mrs. Charles  
 Renwick, Edward A.  
 Rew, Mrs. Irwin  
 Reynolds, Harold F.  
 Reynolds, Mrs. J. J.  
 Rice, Arthur L.  
 Rice, Mrs. Charles R.  
 Rice, George L.  
 Rice, Laurence A.  
 Rich, Elmer  
 Richards, J. DeForest  
 Richards, Marcus D.  
 Richardson, George A.  
 Richardson, Guy A.  
 Richter, Mrs. Adelyn W.  
 Rickcords, Francis S.  
 Ricketts, C. Lindsay  
 Riddle, Herbert H.  
 Ridgeway, Ernest  
 Ridgway, William  
 Riemenschneider, Mrs.  
   Julius H.  
 Ries, Dr. Emil  
 Rieser, Mrs. Herman  
 Rieser, Leonard M.  
 Rietz, Elmer W.  
 Rietz, Walter H.  
  
 Rigney, William T.  
 Rinder, E. W.  
 Ring, Miss Mary E.  
 Ripstra, J. Henri  
 Rittenhouse, Charles J.  
 Robbins, Percy A.  
 Roberts, Clark T.  
 Roberts, Mrs. John  
 Roberts, John M.  
 Roberts, Dr. S. M.  
 Roberts, Shepherd M.  
 Roberts, Mrs. Warren R.  
 Roberts, William  
   Munsell  
 Robson, Miss Sarah C.  
 Roche, Miss Emily  
 Rockwell, Harold H.  
 Roderick, Solomon P.  
 Rodgers, Dr. David C.  
 Rodman, Thomas  
   Clifford  
 Roehling, Mrs.  
   Otto G.  
 Roehm, George R.  
 Rogers, Miss Annie T.  
 Rogers, Mrs. Bernard F.  
 Rogers, Dr. Cassius C.  
 Rogers, Joseph E.  
 Rogers, Walter A.  
 Rogerson, Everett E.  
 Rolfes, Gerald A.  
 Romer, Miss Dagmar E.  
 Root, John W.  
 Rosborough, Dr. Paul A.  
 Rosen, M. R.  
 Rosenbaum, Mrs.  
   Edwin S.  
 Rosenfeld, Mrs. Maurice  
 Rosenfeld, Mrs.  
   Morris S.  
 Rosenfield, William M.  
 Rosenthal, James  
 Rosenthal, Kurt  
 Rosenthal, Lessing  
 Rosenwald, Mrs. Julius  
 Rosenwald, Richard M.  
 Ross, Robert C.  
 Ross, Mrs. Robert E.  
 Ross, Thompson  
 Ross, Walter S.  
 Roth, Aaron  
 Roth, Mrs. Margit  
   Hochsinger  
 Rothacker, Watterson R.  
 Rothschild, George  
   William  
 Rothschild, Maurice L.  
 Rothschild, Melville N.  
 Routh, George E., Jr.  
 Rowe, Edgar C.  
 Rozelle, Mrs. Emma  
 Rubel, Dr. Maurice



- Rubens, Mrs. Charles  
 Rubovits, Theodore  
 Ruckelhausen, Mrs. Henry  
 Rueckheim, Miss Lillian  
 Ruel, John G.  
 Rushton, Joseph A.  
 Russell, Dr. Joseph W.  
 Russell, Paul S.  
 Rutledge, George E.  
 Ryan, Mrs. William A.  
 Ryerson, Mrs. Edward L.  
 Ryerson, Joseph T.  
  
 Sackley, Mrs. James A.  
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 Salmon, Mrs. E. D.  
 Sammons, Wheeler  
 Sample, John Glen  
 Sandidge, Miss Daisy  
 Sands, Mrs. Frances B.  
 Santini, Mrs. Randolph  
 Sardeson, Orville A.  
 Sargent, Chester F.  
 Sargent, John R. W.  
 Sargent, Ralph  
 Sauter, Fred J.  
 Sauter, Leonard J.  
 Sawyer, Dr. Alvah L.  
 Schacht, John H.  
 Schafer, O. J.  
 Schaffer, Dr. David N.  
 Schaffner, Mrs. Joseph  
 Schaffner, Robert C.  
 Scheidenhelm, Edward L.  
 Scheinman, Jesse D.  
 Schermerhorn, W. I.  
 Schlake, William  
 Schmidt, Dr. Charles L.  
 Schmidt, Mrs. Minna  
 Schmitz, Dr. Henry  
 Schneider, F. P.  
 Schnering, Otto Y.  
 Schnur, Ruth A.  
 Scholl, Dr. William M.  
 Schram, Harry S.  
 Schreiner, Sigurd  
 Schroeder, Dr. George H.  
 Schukraft, William  
 Schulman, A. S.  
 Schulze, Mrs. Mathilde  
 Schulze, William  
 Schupp, Philip C.  
 Schuyler, Mrs. Daniel J., Jr.  
 Schwanke, Arthur  
 Schwartz, Charles K.  
 Schwartz, Charles P.  
 Schwarz, Herbert E.  
 Schwarzhaupt, Emil  
  
 Sclanders, Mrs. Alexander  
 Scott, Robert L.  
 Scribner, Gilbert  
 Scully, Mrs. D. B.  
 Seames, Mrs. Charles O.  
 Sears, Miss Dorothy  
 Sears, J. Alden  
 Sears, Richard W., Jr.  
 Seaver, Andrew E.  
 Seaverns, George A.  
 Seaverns, Louis C.  
 See, Dr. Agnes Chester  
 Seeberger, Miss Dora A.  
 Seeburg, Justus P.  
 Seifert, Mrs. Walter J.  
 Seip, Emil G.  
 Seipp, Clarence T.  
 Seipp, Edwin A.  
 Seipp, Edwin A., Jr.  
 Seipp, William C.  
 Sello, George W.  
 Sencenbaugh, Mrs. C. W.  
 Seng, Frank J.  
 Seng, V. J.  
 Senne, John A.  
 Sennekohl, Mrs. A. C.  
 Shaffer, Carroll  
 Shaffer, Charles B.  
 Shambaugh, Dr. George E.  
 Shanesy, Ralph D.  
 Shannon, Angus Roy  
 Shapiro, Meyer  
 Sharpe, N. M.  
 Shaw, Alfred P.  
 Shaw, Mrs. Arch W.  
 Shaw, Theodore A.  
 Sheldon, James M.  
 Shelton, Dr. W. Eugene  
 Shepherd, Mrs. Edith P.  
 Sherman, Mrs. Francis C., Sr.  
 Shields, James Culver  
 Shillestad, John N.  
 Shire, Moses E.  
 Shoan, Nels  
 Shorey, Clyde E.  
 Short, J. R.  
 Short, Miss Shirley Jane  
 Shoup, A. D.  
 Shumway, Mrs. Edward DeWitt  
 Sidley, William P.  
 Siebel, Mrs. Ewald H.  
 Sigman, Leon  
 Silander, A. I.  
 Silberman, Charles  
 Silberman, David B.  
 Silberman, Hubert S.  
 Sills, Clarence W.  
 Silverthorne, George M.  
 Simond, Robert E.  
 Simonds, Dr. James P.  
  
 Sincere, Ben E.  
 Sinclair, Dr. J. Frank  
 Singer, Mrs. Mortimer H.  
 Sitzer, Dr. L. Grace Powell  
 Skleba, Dr. Leonard F.  
 Skooglund, David  
 Sleeper, Mrs. Olive C.  
 Smith, Mrs. Charles R.  
 Smith, Mrs. E. A.  
 Smith, Mrs. Emery J.  
 Smith, Mrs. Frank S.  
 Smith, Franklin P.  
 Smith, Harold Byron  
 Smith, Mrs. Hermon Dunlap  
 Smith, Jens  
 Smith, Jesse E.  
 Smith, Mrs. Katherine Walker  
 Smith, Mrs. Kinney  
 Smith, Miss Marion D.  
 Smith, Samuel K.  
 Smith, Mrs. Theodore White  
 Smith, Walter Bourne  
 Smith, Walter Byron  
 Smith, Mrs. William A.  
 Smith, Z. Erol  
 Smullan, Alexander  
 Snow, Fred A.  
 Snyder, Harry  
 Socrates, Nicholas  
 Solem, Dr. George O.  
 Sonnenschein, Hugo  
 Sonnenschein, Dr. Robert  
 Sonneveld, Jacob  
 Soper, Henry M.  
 Soper, James P., Jr.  
 Sopkin, Mrs. Setia H.  
 Soravia, Joseph  
 Sorensen, James  
 Spencer, Mrs. Egbert H.  
 Spencer, Mrs. William M.  
 Spiegel, Mrs. Frederick W.  
 Spiegel, Mrs. Mae O.  
 Spitz, Joel  
 Spitz, Leo  
 Spitzglass, Mrs. Leonard M.  
 Spohn, John F.  
 Spooner, Charles W.  
 Spoor, Mrs. John A.  
 Sprague, Dr. John P.  
 Spray, Cranston  
 Squires, John G.  
 Staack, Otto C.  
 Stacey, Mrs. Thomas I.  
 Staley, Miss Mary B.  
 Stanton, Dr. E. M.  
 Stanton, Edgar

- Stanton, Henry T.  
 Starbird, Miss Myrtle I.  
 Stark, Mrs. Harold  
 Starrels, Joel  
 Stearns, Mrs. Richard I.  
 Stebbins, Fred J.  
 Steffey, David R.  
 Stein, Benjamin F.  
 Stein, Dr. Irving  
 Stein, L. Montefiore  
 Stenson, Frank R.  
 Sterba, Dr. Joseph V.  
 Stern, Alfred Whital  
 Stern, David B.  
 Stern, Felix  
 Stern, Maurice S.  
 Stern, Oscar D.  
 Stevens, Delmar A.  
 Stevens, Edward J.  
 Stevens, Elmer T.  
 Stevens, Harold L.  
 Stevens, Mrs. James W.  
 Stevens, R. G.  
 Stevenson, Dr.  
     Alexander F.  
 Stevenson, Engval  
 Stewart, Miss Agnes  
     Nannie  
 Stewart, Miss Eglantine  
     Daisy  
 Stewart, James S.  
 Stewart, Miss Mercedes  
     Graeme  
 Stibolt, Mrs. Carl B.  
 Stiger, Charles W.  
 Stirling, Miss Dorothy  
 Stockton, Eugene M.  
 Stone, Mrs. Jacob S.  
 Straus, David  
 Straus, Martin L.  
 Straus, Melvin L.  
 Straus, S. J. T.  
 Strauss, Dr. Alfred A.  
 Strauss, Henry X.  
 Strauss, John L.  
 Street, Mrs. Charles A.  
 Stromberg, Charles J.  
 Strong, Edmund H.  
 Strong, Mrs. Walter A.  
 Strotz, Harold C.  
 Struby, Mrs. Walter V.  
 Stulik, Dr. Charles  
 Sturges, Solomon  
 Sullivan, John J.  
 Sulzberger, Frank L.  
 Sutcliffe, Mrs. Gary  
 Sutherland, William  
 Sutton, Harold I.  
 Swan, Oscar H.  
 Swanson, Joseph E.  
 Swarthchild, Edward G.  
 Swarthchild, William G.  
 Swenson, S. P. O.  
 Swett, Robert Wheeler  
 Swiecinski, Walter  
 Swift, Mrs. Alden B.  
 Swift, Edward F., Jr.  
 Sykes, Mrs. Wilfred  
 Sylvester, Miss Ada I.  
 Taft, John H.  
 Taft, Mrs. Oren E.  
 Tarrant, Robert  
 Tatge, Mrs. Gustavus J.  
 Taylor, Charles C.  
 Taylor, Frank F.  
 Taylor, George Halleck  
 Taylor, J. H.  
 Taylor, L. S.  
 Teagle, E. W.  
 Templeton, Stuart J.  
 Templeton, Walter L.  
 Templeton, Mrs. William  
 Terry, Foss Bell  
 Teter, Lucius  
 Thatcher, Everett A.  
 Theobald, Dr. John J.  
 Thomas, Emmet A.  
 Thomas, Frank W.  
 Thomas, Mrs. Harry L.  
 Thomas, Dr. William A.  
 Thompson, Arthur H.  
 Thompson, Charles E.  
 Thompson, Edward F.  
 Thompson, Fred L.  
 Thompson, Floyd E.  
 Thompson, Dr. George F.  
 Thompson, Mrs. John R.  
 Thompson, John R., Jr.  
 Thompson, Mrs. Leverett  
 Thorne, Hallett W.  
 Thorne, James W.  
 Thornton, Dr. Francis E.  
 Thorp, Harry W.  
 Thresher, C. J.  
 Thulin, F. A.  
 Tibbetts, Mrs. N. L.  
 Tighe, Mrs. Bryan G.  
 Tilden, Averill  
 Tilden, Louis Edward  
 Tilt, Charles A.  
 Titzel, Dr. W. R.  
 Tobias, Clayton H.  
 Torbet, A. W.  
 Touchstone, John Henry  
 Towle, Leroy C.  
 Towler, Kenneth F.  
 Towne, Mrs. John D. C.  
 Traylor, Mrs. Dorothy J.  
 Tredwell, John  
 Tripp, Chester D.  
 Trombly, Dr. F. F.  
 Trude, Mrs. Mark W.  
 True, Charles H.  
 Tucker, S. A.  
 Turner, Alfred M.  
 Turner, Tracy L.  
 Tuthill, Mrs. Beulah L.  
 Tuthill, Gray B.  
 Tuttle, F. B.  
 Tuttle, Henry Emerson  
 Tuttle, Mrs. Henry N.  
 Tyler, Mrs. Orson K.  
 Uhlmann, Fred  
 Ullman, Mrs. N. J.  
 Ullmann, Herbert S.  
 Upham, Mrs. Frederic W.  
 Valentine, Joseph L.  
 Valentine, Mrs. May L.  
 Valentine, Patrick A.  
 VanArtsdale, Mrs. Flora  
 VanCleaf, Mrs. Noah  
 VanCleaf, Paul  
 VanDeventer, Christopher  
 Vanek, John C.  
 VanNess, Gardiner B.  
 VanSchaack, R. H., Jr.  
 VanWinkle, James Z.  
 VanZwoll, Henry B.  
 Vaughan, Leonard H.  
 Vawter, William A., II  
 Veeder, Miss Jessie  
 Vehe, Dr. K. L.  
 Vehon, Morris  
 Vial, Charles H.  
 Vial, F. K.  
 Vial, Miss Mary M.  
 Vickery, Miss Mabel S.  
 Victor, Mrs. Jessie K.  
 Vinissky, Bernard W.  
 Volicas, Dr. John N.  
 Volk, Mrs. John H.  
 VonColditz, Dr. G.  
     Thomsen-  
 VonGlahn, Mrs. August  
 Voorhees, Mrs. Condit  
 Voorhees, H. Belin  
 Voynow, Edward E.  
 Wagner, Fritz, Jr.  
 Wagner, Dr. G. W.  
 Wagner, John E.  
 Walgreen, Mrs.  
     Charles R.  
 Walker, James  
 Walker, Mrs. Paul  
 Walker, Samuel J.  
 Walker, William E.  
 Wallace, Robert Y.  
 Wallace, Walter F.  
 Waller, H. P.  
 Waller, James B., Jr.  
 Waller, Mrs. Sarah  
 Wallerich, George W.

- Wallovick, J. H.  
 Walther, Mrs. S. Arthur  
 Ward, Mrs. N. C.  
 Ware, Mrs. Charles W.  
 Warfield, Edwin A.  
 Warner, Mrs. John Eliot  
 Warren, Allyn D.  
 Warren, J. Latham  
 Warren, Paul C.  
 Warren, Paul G.  
 Warren, Walter G.  
 Washburne, Clarke  
 Washburne,  
   Hempstead, Jr.  
 Washington, Laurence W.  
 Wassell, Joseph  
 Waterman, Dr. A. H.  
 Watson, William Upton  
 Watts, Harry C.  
 Watzek, J. W., Jr.  
 Waud, E. P.  
 Wayman, Charles A. G.  
 Wean, Frank L.  
 Weaver, Charles A.  
 Webb, Mrs. Thomas J.  
 Webster, Arthur L.  
 Webster, Miss Helen R.  
 Webster, Henry A.  
 Wedelstaedt, H. A.  
 Weil, Mrs. Leon  
 Weil, Martin  
 Weiler, Rudolph  
 Weiner, Charles  
 Weinstein, Dr. M. L.  
 Weinkelbaum, Louis L.  
 Weis, Samuel W.  
 Weisbrod, Benjamin H.  
 Weiss, Mrs. Morton  
 Weissenbach, Mrs.  
   Minna K.  
 Weisskopf, Maurice J.  
 Weisskopf, Dr. Max A.  
 Welles, Mrs. Donald P.  
 Welles, Mrs. Edward  
   Kenneth  
 Wells, Arthur H.  
 Wells, Harry L.  
 Wells, John E.  
 Wells, Preston A.  
 Wells, Thomas E.  
 Wells, Mrs. Thomas E.  
 Wendell, Barrett, Jr.  
 Wendell, Miss  
   Josephine A.  
 Wentworth, Mrs.  
    Sylvia B.
- Werner, Frank A.  
 West, J. Roy  
 West, Miss Mary Sylvia  
 Westerfeld, Simon  
 Westrich, Miss T. C.  
 Wetten, Albert H.  
 Wettling, Louis E.  
 Weymer, Earl M.  
 Whealan, Emmett P.  
 Wheeler, George A.  
 Wheeler, Leo W.  
 Wheeler, Leslie M.  
 Wheeler, Mrs. Robert C.  
 Whinery, Charles C.  
 White, Mrs. James C.  
 White, James E.  
 White, Joseph J.  
 White, Richard T.  
 White, Sanford B.  
 White, Selden Freeman  
 Whitehouse, Howard D.  
 Whiting, Mrs. Adele H.  
 Whiting, Lawrence H.  
 Widdicombe, Mrs. R. A.  
 Wieland, Charles J.  
 Wieland, Mrs. George C.  
 Wienhoeber, George V.  
 Wilder, Harold, Jr.  
 Wilder, Mrs. John E.  
 Wilder, Mrs. T. E.  
 Wilker, Mrs. Milton W.  
 Wilkey, Fred S.  
 Wilkins, George Lester  
 Wilkins, Miss Ruth  
 Wilkinson, Mrs.  
   George L.  
 Wilkinson, John C.  
 Willey, Mrs. Charles B.  
 Williams, Dr. A.  
   Wilberforce  
 Williams, Miss Anna P.  
 Williams, Harry Lee  
 Williams, J. M.  
 Williams, Kenneth  
 Williamson, George H.  
 Willis, Paul, Jr.  
 Willis, Thomas H.  
 Willner, Benton Jack, Jr.  
 Wills, H. E.  
 Wilms, Hermann P.  
 Wilson, Mrs. E. Crane  
 Wilson, Harry Bertram  
 Wilson, Mrs. John R.  
 Wilson, Miss Lillian M.  
 Wilson, Morris Karl
- Wilson, Mrs. Robert  
   Conover  
 Wilson, Mrs. Robert E.  
 Wilson, William  
 Winans, Frank F.  
 Windsor, H. H., Jr.  
 Winston, Mrs.  
   Bertram M.  
 Winston, Hampden  
 Winston, James H.  
 Winter, Irving  
 Witkowski, Leon  
 Wojtalewicz, Rev.  
   Francis M.  
 Wolf, Mrs. Albert H.  
 Wolf, Walter B.  
 Wood, Mrs. Gertrude D.  
 Wood, Mrs. Harold F.  
 Wood, John H.  
 Wood, Kay, Jr.  
 Wood, Robert E.  
 Wood, William G.  
 Woodmansee, Fay  
 Woodruff, George  
 Woods, Weightstill  
 Worcester, Mrs.  
   Charles H.  
 Work, Robert  
 Worth, Miss Helen E.  
 Wright, H. C.  
 Wright, Warren  
 Wrigley, Mrs. Charles W.  
 Wunderle, H. O.  
 Wyeth, Harry B.
- Yegge, C. Fred  
 Yerkes, Richard W.  
 Yondorf, John David  
 Yondorf, Milton S.  
 Yondorf, Milton S., Jr.  
 Yorkey, Mrs. Margaret  
 Young, Mrs. Caryl B.  
 Young, E. Frank  
 Young, George W.  
 Young, Hugh E.
- Zabel, Max W.  
 Zapel, Elmer  
 Zerk, Oscar U.  
 Zerler, Charles F.  
 Ziebarth, Charles A.  
 Zimmerman, Herbert P.  
 Zimmerman, Louis W.  
 Zinke, Otto A.  
 Zork, David

## DECEASED, 1937

- Allais, Arthur L.  
 Avery, Miss Clara A.  
 Barley Miss Matilda A.  
 Beck, Herbert  
 Bellinghausen, Miss Celia  
 Black, Dr. Arthur D.  
 Boorn, William C.  
 Chadwick, Charles H.  
 Chase, Frank D.  
 Clifford, F. J.  
 D'Ancona, Edward N.  
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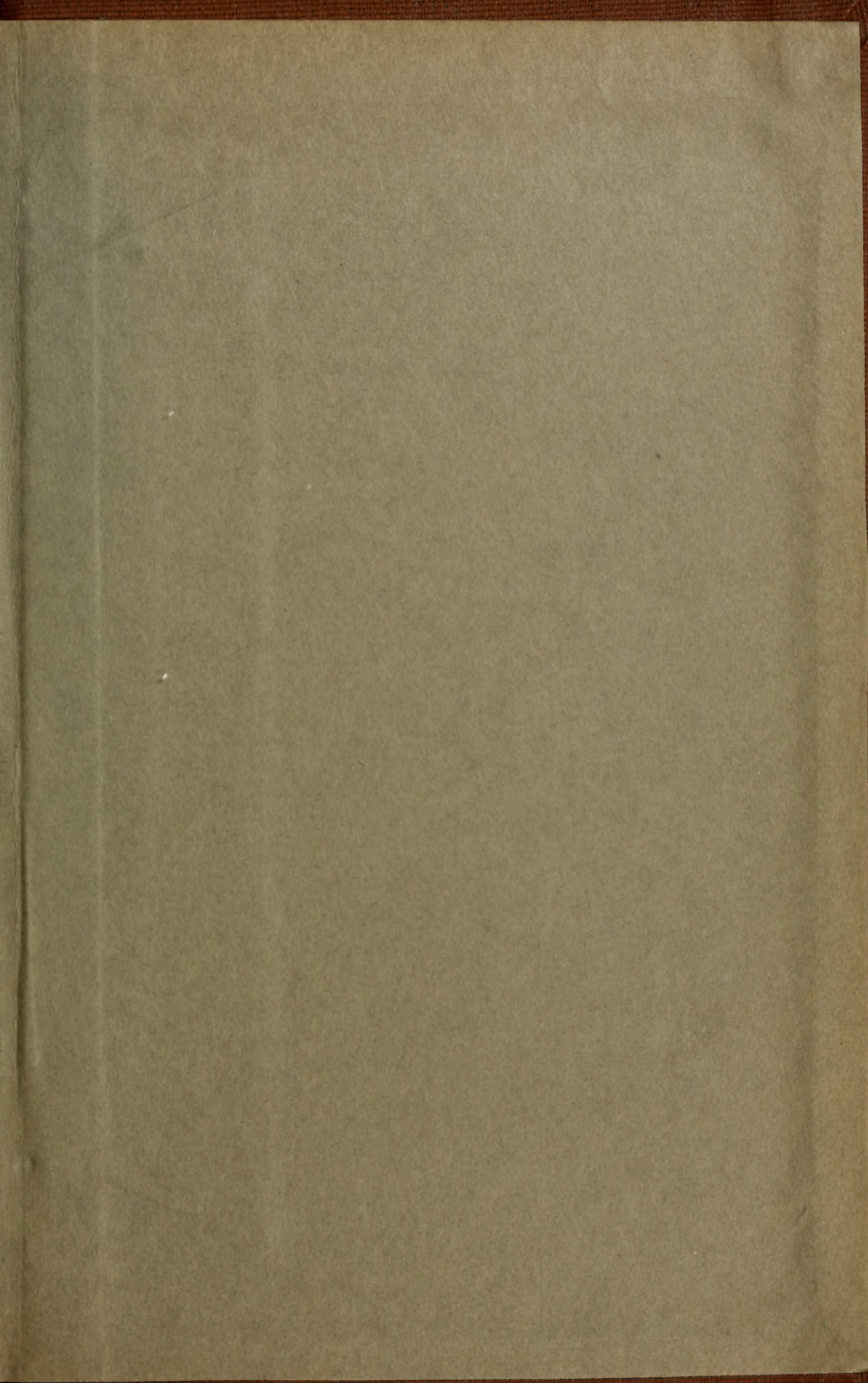
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